The practice of sustainability at the University of Tasmania:

A critical analysis

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Declarations

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Abstract

Many international declarations affirm the vital role of universities in moving societies toward more sustainable futures. Part of a wider agenda of 'education for sustainability' (EfS), universities are tasked with embodying sustainability in their teaching, research, social leadership and operations. Within Australia, universities are now allocating significant resources to define, implement and measure their contributions to sustainability, and are developing associated policies, strategies, plans and activities. To date, little research has examined the assumptions and possibilities that surround this institutional reform, given the heterogeneous nature of the university. In this context, this study addresses the research question: In what diverse ways is sustainability brought into being at the university?

I begin with a theoretical analysis of the contested discourse and practice of sustainability in the context of universities. A qualitative social research design involving two case studies at the University of Tasmania is then described before findings are presented and discussed. The methodology is constructivist and based on a dialectical approach to understanding. The study is not intended to uncover any universal truth about what sustainability is or ought to be. Rather, the focus is on how different material and social contexts influence how sustainability is made within the university, an institution central to the history of modernity. First, the emerging university discourse about sustainability is introduced. Second, research on the efforts of Australian universities to enact and embody sustainability is reviewed. Third, a theoretical analysis positions dominant discourses and practices of sustainability in the context of a modernist project that aligns visions of human progress with economic growth and technological efficiency. I then present a thematic analysis of 20 semi-structured interviews drawn from two case studies of the practice of sustainability at

the University of Tasmania: the Bike Hub and Source Community Wholefoods (Source).

Three central practices and associated themes of sustainability were identified for both case studies. For the Bike Hub, these practices centre on creating a symbol of healthy living, legitimacy within the university, and real-life learning for sustainability. For Source, these practices centre on creating a community co-operative, a countercultural organisation, and a place of experiential learning. These two cases embody divergent understandings of EfS. The Bike Hub is primarily an expression of the modernist project of sustainability linked to the identification of universal solutions to global problems that secure human prosperity. Source is primarily an expression of a radical politics linked to projects of participatory democracy, economic localisation, non-capitalist exchange and voluntary simplicity.

The juxtaposition of the two cases studied opens-up wider dynamics, choices, challenges and ambiguities in efforts to realise sustainability within the university. The study's findings reveal the university as a microcosm of the overall contest between modernist sources of social power and plural sites of resistance in the practice of sustainability. This contest juxtaposes the dualistic constitution of sustainability as an objective, finished truth, with efforts to constitute sustainability as a contextual, contingent good that is made through lived relationships of concern. The study concludes that Australian universities can aid transformation for sustainability by enabling administrators, academics, students, professions and wider society to become critical enquirers into the manifold and contestable processes and embodied practice through which sustainability is brought into being.

Introduction

Despite some 50 years of commitment to sustainability in international developmental discourse, the fundamental problems of unsustainability appear as intractable as ever. There seems little change in many widely-accepted indicators of unsustainable development. In 2000, the Secretary-General of the United Nations called for an assessment of the health of global ecosystems. The resulting *Millennium Ecosystem Assessment* (2005) found that 15 of 24 vital ecosystem services were being degraded (MEA, 2005). A more recent assessment of environmental systems also paints a sobering picture. The fifth *Global Environmental Outlook* (GEO-5), coordinated by the United Nations Environment Programme, found that of the 90 most important internationally agreed environmental goals and objectives, only 4 had been significantly progressed (UNEP, 2012). The glaring and still growing economic inequality across the globe is also evidence that current development paths are not sustainable. The United Nations publication *Inequality Matters* (2013) highlights significant differences between and within countries for a number of key social indicators, such as income, life expectancy, education and nutrition. As a result of this disparity, between 2014-16 there remained approximately 795 million undernourished people across the world, mainly in developing countries (FAO, 2015).

Evidence of deeply entrenched environmental and social problems in the present also need to be placed in the context of future climate change and the on-going growth in global greenhouse gas emissions. The latest assessment report of the Intergovernmental Panel on Climate Change declared that anthropogenic warming of the climate system is unequivocal, with greenhouse gases now at atmospheric concentrations unprecedented over the last 800,000 years (IPCC, 2013). The report

presented as irrefutable, evidence of observed warming of earth surface and sea level rise since the mid-20th Century, changes which have already led to significant impacts on human and natural systems (IPCC 2013). These impacts include changes to hydrological systems, the geographical range, activities and interactions of many terrestrial and marine species, agricultural crop yields, and the intensity and frequency of extreme weather events such as heat waves, cyclones, droughts, wild fires, and floods (IPCC 2013). Without significant changes to the current pattern of human development, it is expected that anthropocentric greenhouse gas emissions will continue to grow, with vulnerable human and ecological communities likely to face potentially catastrophic changes during this Century (IPCC, 2014). Adding to these concerning trends are predictions that the global population will grow from its current size of 7.4 billion to around 11.2 billion by 2100, with most of this growth in less developed, highly impoverished regions like Africa (DESA, 2015; UNEP, 2012)

Despite this alarming state of affairs, there is still much optimism – fuelled by the World Bank, world leaders, business leaders, economic think tanks and trade commissions, to name a few – that economic growth, technological progress, and globalisation will solve the problems of the world (DID, 2008; Saul, 2005; Zoellick, 2007). In contrast to the faith placed in modern institutions by many government and business leaders, many have argued that the problems of sustainability lie deeply rooted in the foundations of modern societies (Davison, 2001; Harvey, 1996c; Latour, 2009). For such radical critics of unsustainable development, the prospect of sustainability requires a fundamental process of personal and social learning. For example, David Orr (1993, p. 1) a leading voice on ecology and educational reform and Distinguished Professor of Environmental Studies and Politics at Oberlin College argues that:

> the crisis we face is first and foremost a crisis of mind, perception, and values—hence, a challenge to those institutions presuming to shape minds, perceptions, and values. It is an educational challenge.

This challenge is one faced by all educational institutions, including universities. Orr (1993) contends that universities, as one of society's most important and cherished educational institutions, have played a significant role in both solving the world's problems as well as creating unsustainable forms of development. In view of this ambivalent role, like many other scholars, he therefore claims that universities have a tremendous moral responsibility to move society towards more sustainable futures (Calder & Clugston, 2003; Cortese, 2003; Gale et al., 2015; König et al., 2016; Orr, 1993; Ralph & Stubbs, 2014; Sterling et al., 2013; Tilbury et al., 2005). Tilbury et al. (2005, p. 3) argues that universities are uniquely positioned in this process of transition, as they

> play an important role not only in shaping the way we think, but also in educating the next generation of decision-makers, such as business leaders and government executives … Universities have huge potential to reorient the formal education sector, and wider society in turn, towards sustainability.

It is in the context of the diverse roles that universities play in sustainable futures that I ask the primary research question that guides this research:

> In what diverse ways is sustainability brought into being at the university?

This question is more complex and challenging than it first seems. In carrying out this research my aim has not been to compose laws, general truths, or principled actions on how universities can be more sustainable. I consider the 'bringing into being' of

sustainability as an act of creation. As an act of creation, sustainability can be brought into being differently depending on its socio-material context.

I approached this study in light of my 17 years as a sustainability practitioner within the university sector, local government and non-profit community organisations, in Australia. Through this experience, it became apparent that sustainability, in its conceptualisation and its practice, can mean fundamentally different things to different people. Some speak of sustainability in terms of continued economic growth, others in terms of its implications for how we manage natural resources and care for the environment, or for those with a more social justice bent, what it means for how we treat and value each other. While these differences may encompass contradictory aims and aspirations when taken as whole, I also believe that embracing these differences can provide spaces for creativity and transformation in building a more sustainable world, one that is inclusive of all concerns about how to live (Harvey, 1996a).

Driven by both a professional and personal concern to understand what sustainability means in specific contexts, I positioned this research firmly within the qualitative social research tradition. Reflecting my interest in the plurality of sustainability discourse and practice, I have drawn on many different fields of enquiry, including critical theory, pragmatism, hermeneutics, philosophy of technology, feminist theory, human geography, environmental studies, and theories of practice. Key scholars who have influenced this work include Daniella Tilbury, Richard Bernstein, Andrew Feenberg, Bruno Latour, Val Plumwood, David Harvey, Carl Mitcham, Michael Redclift, and Elizabeth Shove. Informed by this interdisciplinary scope, I adopt a dialectical constructivist methodology, the subject of Chapter 3, in addressing the following sub-questions:

1. How is the practice of sustainability contested?
2. How are different practices of sustainability constructed?

By asking and answering these questions my aim is to show why certain understandings and experiences of 'what it is to be sustained?' manifest and win out over others within a university. These manifestations of sustainability are interesting for two reasons. Reason one because they can be interpreted as presenting diverse meanings, values and perceptions of sustainability. Reason two because they are socially constructed differences which order our lived experience of sustainability as much as its materiality. This study makes an original contribution to sustainability scholarship because it faces this complexity head-on by examining both the lived material and social world of sustainability through a dialectical appreciation of practice (Harvey, 1996a; Shove et al., 2012). In this way, rather than reducing sustainability to an abstract entity with pre-determined characteristics, this research explores the act of being sustainable as an ongoing embodied performance (Bernstein, 1983). This research aim is achieved through in-depth qualitative research of two different case studies of the practice of sustainability at the University of Tasmania. The specific focus of this research is to examine how this practice is constituted in relation to the complexity of its socio-material context. Here my attempt is not to identify the 'truth' of sustainability, but to develop greater understanding of the processes that shape the different meanings of sustainability within the university in the context of the vital roles this institution could play in creating more sustainable futures.

The thesis spans six chapters. Chapter 1 serves two purposes. The first is to review discourses of sustainability in the context of universities and the agenda of 'Education for Sustainability' (EfS). The second purpose of this chapter is to document how Australian universities are acting on this agenda. I first outline the heterogeneous

nature of Australian universities and how this makes their moral and political role in society ambivalent. I then explore how 'Education for Sustainability' has been translated in the practices of Australian universities. Here I provide a critical assessment of the practice of sustainability in Australian universities identifying a number of concerns.

In Chapter 2 I focus on the dominant discourse of sustainability, that of 'sustainable development'. I argue that while sustainable development forms an all-embracing conceptual framework for a modernist project of sustainability, it can and ought to be contested to create opportunities to construct sustainability differently. In so doing, I aim to develop an understanding of sustainable development that can account for its failure to deliver political and cultural transformation.

In Chapter 3 I detail the methodology and methods used to carry out this research. I provide a brief overview of diverse methodologies for studying social phenomena before outlining the dialectical constructivist methodology adopted in this research. I then present the justification for an exploratory case study approach to studying the practice of sustainability within the University of Tasmania. I then outline the thematic analytical framework used to analyse participant interview data, along with ethical considerations raised in this research.

In Chapters 4, 5 and 6, I present the findings of this research. Chapter 4 details the lived experience of research participants in enacting sustainability through the Bike Hub project. Chapter 5 details the lived experience of research participants in enacting sustainability through the Source Community Wholefood project. For each case, I identity major practices involved in constituting sustainability at the University of Tasmania. In light of scholarly literature presented in Chapters 1, 2 and 3, in Chapter

6 I consider how these practices open-up sites of tension in the ways sustainability is brought into being in the university. I do this through a dialectical process of understanding. My focus here is to make explicit the different commitments to maintaining and or transforming modernist sources of social power. I then conclude with a number of key learnings for universities in their efforts to become more effective agents of sustainability.

Chapter 1: Sustainability in Australian Universities: what is said and done?

Sustainability has become a central issue for modern society and its institutions. As outlined in the Introduction, much of the discourse around sustainability is motivated by growing and seemingly overwhelming empirical evidence of social and ecological problems at every scale from the local to the global. As one of the world's oldest continuing institutions, universities are valued for their central role in the scientific, technological, economic, political, cultural and moral progress of modern societies. Today there is increasing pressure for universities to guide societal transformation towards sustainability (Nagy & Robb, 2008). In this chapter, I first outline what the international discourse of sustainability says about the role of universities in 'education for sustainability' (EfS). I then ask how universities within Australia are meeting this challenge. In answering this question, I first outline the heterogenous role of Australian universities within society. I then document how Australian universities are progressing EfS. I identify four key concerns with current approaches to sustainability taken by Australian universities:

1. limited involvement in decision-making;
2. greenwash;
3. lack of transparency and accountability; and
4. narrow understanding of EfS.

I conclude by arguing that unlocking the full potential of Australian universities to address the root causes of contemporary unsustainability requires nothing less than their thorough transformation.

Sustainability through education

The concepts of sustainability and education have been linked in international discussion of environment and development problems since the 1960s (Davison, 2001). The first international agreement to make this link explicit was the *Stockholm Declaration*, resulting from the United Nation's first Conference on Environment and Development in 1972 (Alshuwaikhat & Abubakar, 2008; UNGA, 1972). The *Stockholm Declaration* (1972) outlines the role of education in enlightening opinion and guiding conduct of individuals in environmental matters (UNGA, 1972). In 1977, a more explicit and focused declaration around education and sustainability was produced by the international community, the *Tbilisi Declaration* (1977). The *Tbilisi Declaration* (1977) constitutes a framework, set of principles and guidelines for formal and informal environmental education, at all stages and levels, and for all people of all ages (GDRC, 2014). The *Tbilisi Declaration* (1977) calls for education that is interdisciplinary in linking understanding of social, environmental and economic dimensions of sustainability, that forges new patterns of behaviour, is sensitive to local through to global issues, and is concerned for equity and solidarity between and within nations (GDRC, 2014).

From its beginnings, the international governmental agenda of sustainable development has highlighted the important role of education. The term sustainable development became widely known through the WCED report, *Our Common Future* (1987) (WCED, 1987). Sustainable development was then operationalised through the *International Conference on Environment and Development* (1992), or Earth Summit, convened by the United Nations in Rio de Janeiro (Paraschivescu, 2012; United Nations, 1992). A major outcome of this conference was *Agenda 21*, a global action

plan for creating a more sustainable future (Australian Government, DEH, 2004). Chapter 36 of *Agenda 21* argues that education is critical in developing the capacity to understand and address environmental and developmental issues across its intersecting dimensions (Calder & Clugston, 2003; Leeuw et al., 2012; United Nations, 1992). The importance of education in achieving sustainable development goals has only increased over time. For example, the 2002 *World Summit on Sustainable Development* in Johannesburg inaugurated the *United Nation's Decade of Education for Sustainable Development 2005-2014* (UNDESD 2005-2014) with the aim of mobilising educational resources towards the goal of building a more sustainable future. The mission of the UNDESD 2005-2014 was to integrate the principles, values and practices of sustainable development into all aspects and stages of teaching and learning (Pigozzi, 2010; Tilbury & Wortman, 2004; UNESCO, 2015).

Education for Sustainability (EfS)

As the emphasis laid on education in meeting sustainable development goals has grown stronger, the meanings associated with education have changed considerably. Progressing sustainable development through education was initially conceptualised in terms of the specific field of environmental education. For example, in the United Nations Educational, Scientific and Cultural Organisation's 1975 *Belgrade Charter* the role of environmental education in addressing sustainable development was championed as follows.

> The goal of environmental education is: To develop a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations and commitment to

> work individually and collectively toward solutions of current problems and the prevention of new ones (UNESCO, 1975, p. 3).

In the 1970s and 1980s, environmental education was specifically recognised for its power to both raise public awareness of environmental issues and build a global ethic for sustainable development (Clugston & Calder, 2000; UNESCO, 2002). Starting in the 1990's and made explicit at the World Summit on Sustainable Development in August 2002, the international community turned its attention to EfS (Tilbury & Wortman, 2004). Professor Daniella Tilbury, a notable authority on EfS, and colleagues, describes this agenda as an attempt

> to move beyond education *in* and *about* the environment approaches to focus on equipping learners with the necessary skills to be able to take positive action to address a range of sustainability issues. Learning *for* sustainability motivates, equips and involves both individuals and institutions in reflecting on how they currently live and work. This assists them in making informed decisions and creating ways to work towards a more sustainable world (Tilbury et al., 2005, p. 4).

EfS is presented as a way to develop increased understanding not only of natural systems but also the socio-political dimension of environmental challenges. Tilbury (1995) contends that developing a sense of responsibility and active participation is essential to learning for sustainability. This involves providing opportunities for people to mark out pathways to preferred futures, at the same time as reflecting on values and assumptions in dialogue and partnership with others (Hammond & Churchman, 2008; Tilbury, 1995; Tilbury & Wortman, 2004).

As early as 1999, John Smyth succinctly summed up the transition from environmental education towards broader frameworks for EfS. Based on his experience in developing and implementing strategies for education consistent with the concept of sustainable development, Smyth (1999, p. 79) explains:

> Environmental education started off as a scissors-and-paste job, using the content of established disciplines; it became an issue-orientated approach to relevant topics deemed to be of local or global concern; now it should be approach-based, moving away from prescribed content and the promotion of approved values and solutions, and focusing on provision of opportunities for motivating experience and the skills needed by the student to address complex issues. The content will then come in its proper place as material relevant to what is being done, the values are more likely to develop from rewarding experience of activities to which the student is exposed, while the environment of learning—physical and social—can become a matter for critical discussion and action rather than being blindly accepted or hopefully ignored.

Smyth's account highlights the core elements of EfS: imagining a better future; critical thinking and reflection; participation in decision-making; partnerships; and systemic thinking (Hunting & Tilbury, 2006). He clarifies that EfS is different from environmental education as taught through disciplines such as environmental science which seek to produce and rely upon universal and objective knowledge. EfS extends beyond learning where facts, values, attitudes and knowledge are predetermined and passed on through a process of indoctrination, through to learning that creates critical reflection and political action and awareness of plural and interdisciplinary forms of knowledge (Holdsworth et al., 2008; Richmond, 1993). EfS marks a shift in the

meaning of education as an instrumental and passive tool to overcome ignorance, to one of actively empowering learners to change their lives and their world. Here, political action is contingent not just on awareness of issues, but also on critical understanding of issues at a personal and involved level (UNESCO, 2002). The mixing of personal involvement, public action, participatory democracy, and the questioning of assumptions, ideologies and existing power balances can be taken as defining features of the transformative agenda of EfS (Tilbury, 1995; Tilbury & Wortman, 2004).

As a transformative agenda, EfS aims to achieve deeper learning that focuses not only on content but also pedagogical concerns of teaching practice. It emphasises social and political processes in building individual awareness of the complexity of phenomena, acknowledges the strength of an interdisciplinary setting in understanding complexity and, lastly, allows learners to critically reflect on different knowledges, their assumptions and intercultural settings, in examining and building their own resources for thinking and decision-making (Holdsworth et al., 2008). Richmond (1993) describes this type of approach more generically as 'learner directed'. Here learners are empowered to construct and reconstruct their own meaning and understanding of knowledge provided by a teacher. This shift in perspective means that learning becomes an active process where learners take personal responsibility for their learnings and teachers becomes personally responsible for facilitating learners to think for themselves rather than think like them. In terms of the challenges of sustainability, this process of inquiry allows learners to examine current paradigms of unsustainability in regard to how they are produced and reproduced by certain modes of thinking and practice that they and others embody. In turn, a teacher must accept that their own modes of thinking and practice are also open to critique, challenging

traditional relationships that hold teachers as all-knowing imparters of wisdom (Richmond, 1993).

Universities and EfS

Krücken et al. (2007, p. 9) maintain that universities play an important role in achieving global development goals and therefore are "central institutions of modern society". This recognition has resulted in the growth of the university sector worldwide as an integral part of processes of global development (Krücken et al., 2007). As part of this expansion, universities are positioned as integral to the economic growth of nations worldwide. As a result many universities are increasingly seeking industry based partnerships (Krücken et al., 2007). Global development is also constituted by an increasing concern about sustainability of human and natural systems. Hence, as modern institutions there is strong international consensus that universities also have an important role in humanity's transformation towards a secure and sustainable future (UNESCO, 2002). The 1988 World Declaration on Sustainable Development for Higher Education for the 21st Century, for example, proclaims education as a fundamental pillar of democracy, peace and human rights, and positions the pursuit of sustainability as a moral duty of higher education institutions (Calder & Clugston, 2003).

In October 1990, presidents, vice chancellors and rectors from universities around the world signed the *Talloires Declaration* (1990), at a conference at Tuffs University in Talloires, France. This declaration provides an action plan for incorporating EfS in teaching, research, operations and community outreach of universities (ULSF, 2017). As of 14th January 2016, the *Talloires Declaration* (1990) has been signed by 499 universities and colleges, representing 55 different countries (ULSF, 2016). This

declaration is cited by the secretariat for signatories to the *Talloires Declaration* (1990), the Association of University Leaders for a Sustainable Future (ULSF), as the inspiration for other similar and subsequent declarations by the Higher Education Sector (HES) across the world (ULSF, 2017). The ULSF stress that the greatest potential for universities to transform culture in and outside their domain of activity is through education of people capable of transforming society's institutions (ULSF, 2017).

The transformative agenda of EfS presupposes that universities need to do more than simply add sustainability education on top of their existing activities: it requires the thorough transformation of these activities (Tilbury et al., 2005). The rise of universities as agents of both unsustainable and sustainable modes of social development highlights the heterogeneous and contradictory nature of the role they play in society (Krücken et al., 2007). Gale et al. (2015) point out that EfS requires universities to question how their curriculum, research, operations and community outreach activities reinforce, promulgate or potentially transform ideologies of unsustainability (Bernaldo et al., 2014; Gale et al., 2015; Lozano et al., 2013a; Mader et al., 2013). This would require a collaborative effort across all university functions enabling staff, students and partnering organisations to understand how context matters in how sustainability is constructed (Tilbury et al., 2005). In short, all activities of the university would then become sites for action learning capable of creating agents of change for sustainability.

The university in Australian society

In mid-2014 there were 43 accredited universities and around 130 other institutions providing higher education within Australia (AEN, 2015b; Norton & Cherastidtham,

2014). Unlike other institutions within the Australian HES, universities are authorised by government to accredit their own courses and provide qualifications from associate degrees through to doctoral degrees (Norton & Cherastidtham, 2014). Universities within Australia are further distinguished by their role in knowledge production through the combining of research with teaching and learning. To be deemed a university within Australia an institution must engage in research across at least three broad fields of study (Norton & Cherastidtham, 2014).

Like universities across the world, universities in Australia draw together and serve a 'universe' of different social interests. Krücken et al. (2007) use the term 'multiversity' to describe the heterogeneous nature of universities. Universities are sites for a vast array of different paradigms, methodologies, and theoretical constructions which can make the practice of sustainability confusing and complex (Gale et al., 2015). In short, they concentrate and produce the knowledges that have been used to critique unsustainability at the same time as concentrating and producing the knowledges that have *created* unsustainability. I argue that the heterogeneous nature of Australian universities is the result of three conflicting agendas: a public good agenda (which justifies their public funding and gives focus to their role in making higher education broadly accessible); a scholarly agenda (based upon the ideal of academic freedom and independence from social power/bias); and an economic agenda (based upon education and research as profit-making enterprises designed to serve economic needs and to generate a return on investment).

Universities within Australia occupy a liminal 'space' that sits outside of the borders usually drawn for public, private and civil sectors. Funded by a mix of public and consumer revenue, accountable to a huge array of public and private stakeholders, and

an increasingly a large source of direct and indirect economic productivity, the university is increasingly difficult to classify. While this distinguishes them from other institutions, it also means that their role in transforming society for sustainability is ambivalent. In making this argument I first explore the meaning of 'academic freedom' for Australian universities and the origins of this idea. I show that in the historical development of Australian universities the notion of academic freedom has been more of an ideal than a reality. I argue that while universities today have sought to distance themselves from their elitist origins to become more democratic and to more concertedly serve public and private interests, they have done so while holding onto a notion of academic freedom where place, passion and political action are viewed as unimportant to how knowledge is produced. As places of academic freedom, Australian universities are self-determining in how they shape culture, and are thus ambivalent in their influence on the moral-political progress of society. As institutions dependent on public funding, they are asked by Government to serve the interests of Australian society or to shape culture in a particular way. As institutions seeking private investors and to attract private consumers they are increasingly inclined to borrow from corporate strategies to become more profitable and competitive. This places Australian universities in a very conflicted position in terms of their role in transforming society through EfS.

Academic freedom

The National Tertiary Education Union in Australia claims that academic freedom is a central mission of Australian universities (NTEU, 2017). Academic freedom is an ideal protected in commonwealth legislation through the *Higher Education Support Act 2003*, one of the main legislative frameworks for Higher Education in Australia; as such it is a 'key legitimising concept' for Australian universities (*Higher Education*

Support Act 2003 (Cth); Kayrooz et al., 2001; Menand, 1996). Academic freedom is upheld as necessary to the pursuit of free enquiry without pressure from governments and interest groups (EUA, 2016). Kayrooz et al. (2001, p. 2) argue that "[t]he idea of academic freedom in Australia is intrinsically linked to the notion of a university as a 'public good', a site of nation-building and an upholder of citizenship and democratic values".

The notion of academic freedom should not be confused with independence from society, as over the course of history universities have always been dependent on state, private or religious financiers (Kayrooz et al., 2001). It is in this context that Kayrooz et al. (2001, p. 4) claim that "[t]he political and economic environment and its accompanying funding regime will always pose challenges to the extent to which universities are free and autonomous institutions". Hence, the challenge of maintaining universities as places of academic freedom is fundamental to the political challenge Australian universities face in constructing their identity.

Fuller (1994) suggests that the notion of academic freedom enshrined by many universities today is far removed from the Athenian ideal from which it originates. Fuller (1994) maintains that in Athenian culture, free enquiry was linked to places where philosophers following in the Socratic tradition publicly displayed rationality. Here rationality was conceptualised as a display of passion and the artfulness of argumentation in public places. Fuller (1994) notes that this type of rationality was rejected as important to free enquiry in the rise of medieval universities within Europe. Henceforth rationality within the university context was based on reasoned arguments disciplined prior to engaging in publics, such as that given in lecture material, course curriculum and academic texts. This meant that medieval scholars could alienate

themselves from the material conditions out of which their knowledge was constituted. No longer was place, passion and political action viewed as important to how knowledge was produced.

While today the notion of academic freedom provides impetus to preserve knowledge for its own sake and legitimises the uniqueness of university institutions, it also preserves conceptions of knowledge production as disembodied and separate from politics. Historically this has created much ambivalence about the role that universities can directly play in the moral-political progress of society. As places of (notional) academic freedom, Australian universities hold much promise in questioning and transforming ideologies of unsustainability. However, this freedom does not necessarily translate into an obligation to engage in efforts to culturally and politically transform society; a fundamental goal of EfS. The context in which Australia's universities were first developed and their post-war transformation helps explain why.

Establishing the university

In 1849 Australian poet, journalist, and politician William Wentworth argued that universities should become national institutions entrusted to shape young 'men', regardless of their class or religious background (Horne, 2014). Wentworth's vision for a democratic and civil serving university institution however did not match the reality of how Australia's first universities were established.

The first Australian universities were mostly self-funded (mainly through fees only the rich could afford and/or through private investors) and were largely autonomous from government influence, able to make decisions themselves about who and what they taught (Partridge, 1965; Tully & Whitehead, 2009). This vanguard included Sydney University, founded in 1850, University of Melbourne, founded in 1853, University of

Adelaide, founded in 1874, and the University of Tasmania, founded in 1890 (AEN, 2015a). Tully and Whitehead (2009) explain that the flourishing of Australian universities between 1850 and 1900 was aided by a deeply ingrained desire to transplant British culture in the Antipodes. As a result, these universities were heavily staffed by male professors from British universities (Tully & Whitehead, 2009). Early supporters of universities sought to maintain a cultural and elitist hold over the colonists who were largely seen by university officials as undereducated and uncultured. As was the case in the United Kingdom, Australian universities in these early days were seen as 'ivory towers' or 'citadels of social privilege' by broader society, with enrolment usually only for the rich and those with social status (Partridge, 1965). For most of their early history, universities in Australia were unquestionably places of privilege and closely aligned to social structures of power in the form of church, nobility, wealth, profession and 'the imperial state' (Partridge, 1965; Tully & Whitehead, 2009).

The alignment with British elitism in establishing Australia's first universities challenged Wentworth's vision that they should be democratic intuitions created to serve all the people of Australia (Tully & Whitehead 2009). In much of this early history the notion of academic freedom seemed to sit comfortably with an identity of university elitism. However, in the post-war era (world-war one and two) of Australian universities a different story emerges.

Post war transformations

John Philip Baxter, Vice Chancellor of the University of New South Wales (1955-1969), is a notable character in the post-war transformation of Australian Universities. In a time of high optimism around Australia's industrial future, Baxter in his role as

Vice Chancellor of the University of New South Wales set to the task of dismantling idealist notions of universities as places of academic freedom and intrinsic social worth, by arguing that universities should be broadly accessible institutions of extrinsic social worth. In step with this agenda, he brought into being much of the centralised power and decision-making structures that we see today in Australian universities (Horne, 2014). This was in contrast to earlier autocratic machinations of universities, where the power to make decisions was devolved to Deans and their faculties (Tully & Whitehead, 2009). As a result, Baxter is credited with bringing an instrumental agenda into Australian universities (Horne, 2014). This marks a significant shift in the identity of Australian universities and represents the beginning of reformulating academic freedom in terms of a more utilitarian function.

Public funding

An important post-war transformation of Australian universities involved changes to university funding. In 1974 the Commonwealth Labour government, under Prime Minister Whitlam, assumed full responsibility for universities, abolishing student fees and providing universal access to tertiary education (Chesters & Watson, 2013). With a high demand for higher education and the subsequent cost burden to the government, student fees were reintroduced in the 1980s. This resulted in the proportion of total university income from commonwealth funding falling significantly from around 90% in 1981 to 55% in 2005 (Norton & Cherastidtham, 2014).

From 2005 to 2012 Australian universities slightly increased in their reliance on commonwealth funding as a proportion of their total revenue (Norton & Cherastidtham, 2014). The Grattan Institute estimates that in 2013-14 government expenditure on universities was $14.1 billion, representing around 60% of university

cash flow (Norton & Cherastidtham, 2014). The large amount of public funding which constitutes university income has brought with it greater scrutiny of the role that these institutions play in Australian society and with it a greater pressure on Australian universities to serve the public interest.

The rise of the corporate university

Australian universities today are much more comfortable in shaping Australia's economic prosperity than its moral-political progress. Grit (1997) argues how this comfortableness is correlated with the spread of economic discourse into many different domains of social life. The extent to which economic interests have encompassed universities can be evidenced by the dominance of business language used today within most universities, such as: key performance indicators; business cases; students as investments, clients or customers; value proposition; strategic plans; service centres; and cost centres. In addition, the use of this language occurs alongside the recognition of and importance given to knowledge production as a primary instrument in the development of economic growth (Grit, 1997; Sauntson & Morrish, 2011). For example, while now disbanded and its functions transitioned into the Department of Industry (DET, 2015); the then Australian Workforce and Productivity Agency in 2012 produced a paper on the workforce capabilities needed by Australia to remain productive and competitive internationally in the years to 2025. Here, the role of the Australian HES was stressed as critical (AWPA, 2012).

Accompanying the internalisation of economic discourse within universities is a transformation of the role they play in society (Gale et al., 2015). Commonly referred to as 'triple helix' alliances (Jacob, 1997), this transformation entails a tripartite relationship between universities, the economy and the state, whereby both knowledge

producer and users play a greater role in mutually setting priorities for knowledge production (Jacob, 1997). For Grit (1997) this means that university institutions are becoming much more like factories whereby outcomes of scholarly work are machined into commodities ready for market and ready for consumption (Grit, 1997; Harris, 2005; Molesworth et al., 2009).

While Australian universities have a different mission than corporate companies, they have embodied many corporate structures and thus are becoming more corporate-like. On this note a vast array of examples have been cited across the higher education literature, these include: the introduction of open plan offices and loss of privacy and personalisation of work place; loss of professional autonomy; frameworks of accountability and performance dominated by profitability, efficiency and externalised criteria; commodification and cheapening of academic labour; increased casualisation of staff; excessive workloads; centralisation of decision-making towards professional managers; a conceptualisation of innovation which is underlined by the ability to make profit rather than creativity and exploration; an ethos of individualistic survival; commercialisation of research; emphasis on university branding and outcomes; construction of students as consumers and clients; and the valuing of education solely in term of career prospects (Baldry & Barnes, 2012; Butt et al., 2014; Hammond & Churchman, 2008; Mader et al., 2013; Molesworth et al., 2009; Nagy & Robb, 2008). Nagy and Robb (2008) use the term ‘corporate university’ as way to signify the corporate structures increasingly being adopted by contemporary Australian universities.

Jacob (1997) contends that the relationship of universities to society today is qualitatively different to past relationships. Rather than academic freedom being

determined by a cultural elitist ideology, as was the case in the first Australian universities, today with increasing corporatisation of universities a new form of elitism has taken its place. This subtler form of social differentiation and exclusion draws power from economic processes that favour those that can afford to invest into knowledge production and realise its practical worth in economic terms (Harris, 2005; Jacob, 1997). The upshot is that the role of Australian universities as places of academic freedom has been further divorced from the goal of making citizens, and ever more tightly aligned with the goals of making high paying careers through education, winning funding, and dominating global market share (Gale et al., 2015; Harris, 2005; Molesworth et al., 2009). In this brave new world, knowledge production is increasingly valued instrumentally, rather than for how it can transform culture through the cultivation of critical and reflective thinking (Molesworth et al., 2009).

The practice of EfS within Australian universities.

The corporate restructuring of Australian universities as core engines of economic productivity and growth since the 1980s has coincided with increasingly urgent calls for the university to lead social transformation towards sustainability. In 2009, the Australian government released *Living Sustainably: the Australian Government's National Action Plan for Education for Sustainability*. This Action Plan forms an essential component in Australia's policy for creating a sustainable society through transformation of the education system. Objective 2.2 of this plan focuses specifically on universities. It emphasises the integration of sustainability into research and curricula, reinforced by continuous improvement in the sustainability of campus management. Strategy 3 of this plan emphasises the role of universities in building the sustainability skills of business and industry (DEWHA, 2009). Endorsing the

Government's call to transform the education system, the then Australian Learning and Teaching Council funded the development of interdisciplinary approaches to sustainability within universities (Ferreira & Tilbury, 2012).

Recent decades have seen activity in the name of sustainability flourish in Australian universities. An online search of Australian universities and the term 'sustainability' will pull up a swathe of examples, highlighting everything from actions, projects, curriculum, courses, international commitments, strategies, plans, score cards, offices and centres for sustainability. Furthermore, for the Group of Eight (Go8), a coalition of Australia's leading universities (Go8, 2017), sustainability appears to be high on the agenda. An internet-based audit, carried out by the author, on 1 February 2017 of the websites of Go8 members revealed that all members had some sort of dedicated sustainability plan, policy or strategy as part of their commitment to sustainability. While these observations seed optimism that universities within Australia are taking the challenge of EfS seriously and wholeheartedly, in this section I take a more critical perspective. I outline three common ways in which EfS is being enacted within Australian universities. I then highlight issues of concern which may be preventing Australia universities from realising the extent and depth of cultural and political transformation demanded by the challenge of EfS.

Sectoral wide commitment to EfS

The drafting of the *Australian Vice-Chancellors' Committee* (AVCC) *Policy on Education for Sustainable Development,* in August 2006 (UA, 2006), indicated that EfS was to become core business in Australian universities. The AVCC was the precursor to Universities Australia (UA), the peak representative body of Australian universities. Since 1920 and up until its dissolution in 2007, the AVCC's membership

comprised Vice Chancellors from all universities within Australia (UA, 2014). In 2006, the then president of the AVCC, Professor Gerard Sutton, had this to say about the intent of this policy:

> Through this policy the AVCC declares a commitment to Education for Sustainable Development, and will strive to ensure that universities are a major driver to society's efforts to achieve sustainability. This will be achieved through the skills and knowledge of its staff and students and through engagement with communities (UA, 2006, paragraph 4 & 5).

Further evidence of sector-wide commitment to EfS by universities within Australia was the UA's endorsement of the *Commitment of Sustainable Practices of Higher Education Institutions*, on the occasion of the *United Nations Conference on Sustainable Development* in Rio in 2012 (UA, 2012). In addition, the Australian Council of Environmental Deans and Directors endorsement in 2015 of the Learning and Teaching Academic Standards Statement for Environment and Sustainability is also cause for optimism. This statement outlines minimum threshold learning outcomes (as a non-prescriptive reference point) that environment and sustainability program graduates of universities should meet or exceed. Addressed are key aspects of EfS such as 'transdisciplinary knowledge', 'systemic understanding', 'skills for environment and sustainability' and 'ethical practice' (Phelan et al., 2015).

At an individual level, many universities within Australia have pledged a commitment to EfS by signing the *Talloires Declaration* (1990). As discussed earlier, this declaration represents an explicit commitment by university leaders around the world to embed EfS across all of their activities; teaching, research, operations and community outreach (ULSF, 1990). As of 1 February 2017, 22 universities in Australia

have become signatories to the *Talloires Declaration* (ULSF, 2017), just over half of all Australian universities. The fact that only half have signed indicates that not all Australia universities are ready to make public a formal and explicit commitment towards EfS. However, it may also be that this commitment is expressed in different ways.

Another expression of commitment to EfS by universities within Australia is membership to the Australasian Campuses Towards Sustainability Incorporated Association (ACTS). Incorporated in 2006, ACTS is an organisation with significant national and international standing. The explicit purpose of ACTS is to promote, support and build capacity for change towards sustainability within the HES of both Australia and New Zealand. This ambitious goal is delivered through the provision of services which include conferences, workshops, professional development opportunities, scholarships, awards for the practice of sustainability, reporting tools and web based resources (ACTS, 2017a). As of 1 Feb 2017, 32 Australian universities were ACTS members (ACTS, 2017b). The high proportion of Australian universities that are ACTS members indicates that involvement in information sharing networks and sustainability awards is strong feature of the commitment to EfS by Australian universities.

Greening of campus operations

To date, the leading area of application of EfS in Australian universities has been the 'greening of campus operations'(Christie et al., 2013; Christie et al., 2015; Leihy & Salazar, 2011; Tilbury, 2011). This is consistent with what is occurring across European and American universities (Barth, 2011; Wright, 2010). 'Greening of campus operations' describes the practice of improving the environmental

management of campus operations (Noonan & Thomas, 2004; Tilbury et al., 2005). Bekessy et al. (2002) in their 2002 survey of sustainability initiatives across all Australian universities found a high prevalence of greening of campus operations initiatives. Out of all Australian universities, 69%, 71%, and 67% responded that they had energy reduction programmes, guidelines for sustainable building design, and guidelines for sustainable landscaping, respectively. Other studies also have found a strong focus on greening of campus operations in integrating EfS within Australian universities (Noonan & Thomas, 2004; Ralph & Stubbs, 2014).

In Australia, campus greening started as early as 1995 with networking between environmental campus managers from different universities under the auspices of the Australian University Environmental Manager Network (Ferreira & Tilbury, 2012; Tilbury, 2011). This network group has grown into ACTS (Noonan & Thomas, 2004). It is now mainstream practice for many universities within Australia to report progress on greening of campus operations. For example, the Tertiary Education Facilities Management Association (TEFMA) is a leading organisation for the promotion and support of excellence in facilities management within tertiary education institutions across the Australasian region. In 2002 TEFMA introduced an ecological sustainable development matrix into their annual benchmark survey. This matrix benchmarks performance by universities in their linking of sustainability with facilities management practices (TEFMA, 2004).

The compartmentalised focus of EfS

Lang et al. (2006) reported that while focused on greening of campus operations, Australian universities have not given the same focus to EfS within the curriculum or within research activity. Similarly, McMillin and Dyball (2009) maintains that most

universities, let alone Australian universities, are compartmentalising the implementation of EfS. They argue that sustainability education is integrated only in specific courses narrowly focused on environmental education based conceptualisations of EfS. They further argue that there is a lack of integration between sustainability research and education and greening of campus operations (König et al., 2016; McMillin & Dyball, 2009).

Interdisciplinarity is described by Sherren (2006) as a process which integrates knowledge of different disciplines, such that learners are exposed to different world views and assumptions beyond their discipline. This is an important aspect of the transformative agenda of EfS (Sherren, 2006; Tilbury et al., 2005). However a number of studies and observations show that this has been hard to achieve in practice. Bekessy et al. (2002) found that while 63% of universities in Australia responded that there were 'quite a bit' or a 'great deal' of courses addressing sustainability, only 24% using the same descriptors responded that they had integrated environmental knowledge, values and ideas into courses across disciplines. Studies by Sherren (2006) and Lang et al. (2006), and observations by Gale et al. (2015) further substantiate that within Australian universities EfS is wedded to disciplinary structures. For example, Sherren (2006) examined how EfS has been integrated into Australian universities course offerings based on an internet-based audit. The findings of the study suggest that EfS is not well integrated into generalist or specialist course offerings, and where it is there is strong bias towards biology and environmental science degrees. In only five Australian universities was there sustainability subjects across all disciplines or faculties. The majority of universities had sustainability education clustered within science and technology faculties. This was also evidenced in the study by Lang et al. (2006) which found that few students within Australian universities have exposure to

EfS across disciplines. Despite an increasing number of universities within Australia experimenting with interdisciplinary 'breadth units' around sustainability themes, there remains much rooted division in values and ideas between disciplines (Gale et al., 2015).

Tilbury et al. (2005) maintain that sustainability within the curriculum is being integrated as additional content which develops knowledge through definitions and interpretation of what sustainability means, but does not engage students in a process of critical enquiry capable of creating students as agents of change for sustainability. This claim is supported by a recent study by Christie et al. (2013) who found that in cases where academics within Australian universities were teaching EfS, by and large the same teaching methods were used when not teaching EfS. A more recent study by the same authors also found that many academics within Australian universities often confuse EfS for education about the environment and view EfS as an additional topic to the curriculum (Christie et al., 2015). Reasons for this, cited in literature on research into higher education sustainability, include overloaded curriculum and inadequate resourcing, confusion over what sustainability means, and market demand for specialist courses (Christie et al., 2013; Christie et al., 2015; Dyball, 2010; Gale et al., 2015; Lang et al., 2006; Sherren, 2006). In addition, Tilbury et al. (2005) point to the resistance of many incumbent academics to curriculum changes as one of the major reasons. Tilbury et al. (2005) explain that many of these academics developed their disciplinary training before the transformative agenda presupposed by EfS.

Issues of concern

I identify four issues of concern in the current practice of EfS by Australian universities. My aim is to critically examine the making of sustainability

commitments, greening of campus operations, and a compartmentalised focus to EfS in relation to issues which might prevent universities from realising their potential to transform cultures of unsustainability. By no means do I wish to imply that these are the only concerns worth investigation. It is just that these concerns are highly relevant to the practices identified in this chapter.

1: Limited involvement in decision-making

In acting on their sustainability commitments, organisations commonly develop a sustainability strategy. Strategies identify a path for institutional change towards identified and measurable goals, as opposed to coincidentally or in an ad hoc manner (Baumgartner & Ebner, 2010). Having a sustainability strategy is often crucial in successfully communicating sustainability goals and responsibilities (Collins, 2012).

It is common when developing a sustainability strategy for an organisation to embark on a consultation process with its stakeholders. This process aims to ensure that a strategy is supported by, or 'owned', by the community in which it will operate. Students are significant stakeholders within universities. Hence, their role in decision-making for sustainability would seem self-evident. However, a study by Butt et al. (2014), of four Australian universities, concludes that students did not have a high level of impact on decision-making for sustainability. This was despite opportunities provided for student participation through governance structures and sustainability initiatives. Even when student attitudes were incorporated into sustainability decisions, it was often piecemeal and not evidence based. Butt et al. (2014) found that decision-making for sustainability was largely the domain of university employees often located in operational management areas. While a study of only four universities is too small to make sweeping generalisations about universities in Australia, the focus given to

greening of campus operations within the sector indicates that operational managers have had a significant role in how sustainability is constituted within Australian universities (Ferreira & Tilbury, 2012; Noonan & Thomas, 2004; Tilbury, 2011).

Noonan and Thomas (2004) correlate funding and resourcing as a significant driver in framing decision-making for sustainability. Operational managers are often allocated funding and resources for sustainability on the basis that they will realise cost savings through improved water, energy, waste and transport management (Allen, 1999; Dahle & Neumayer, 2001). In this respect the majority of students are disadvantaged; they are given little resources if any to participate in decision-making, usually only have indirect access to decision-making structures, and are rarely made aware of or given guidance in how to navigate the complex institutional structures of the university (Sharp, 2002). Academics are also in many ways disadvantaged by factors such as: the pressure of increased teaching loads and increasing requirements to publish papers and to demonstrate research impact; structures which limit interdisciplinary teaching, learning and research and collaboration for sustainability; turf wars between operational staff and academics; lack of resourcing to include EfS into the curriculum; and market driven student demand for lucrative careers rather than critical learning. For these reasons, many academics struggle to justify their involvement in sustainability at the university (Gale et al., 2015; Mader et al., 2013). Students, academics and operational staff as key university stakeholders have a direct interest in their university. So far as universities are represented as democratic institutions, the interests of students, academics and operational staff should have a collective influence on decisions for sustainability, no matter how difficult this is to implement in practice (Alemán, 2014; Carey, 2013; Miller, 2009).

2: Greenwash

The making of sustainability commitments, however widespread across the university sector in Australia, is not to be confused with actual institutional change and transformation. For example, a web-based study in 2013 by Lee et al. (2013), found that while most Australian universities publicly endorse sustainability goals and commitments there has been little evidence of their translation into visions, mission statements and graduate attributes of business faculties and schools. While this study was specific focused it does however raise the concern of sustainability commitments not being translated across all university governance structures.

A growing body of research has argued that commitments to sustainability have often been used as a rhetorical tool to greenwash an organisation's reputation, marketability, and business competitiveness (Bowen & Aragon-Correa, 2014; Jones, 2012; Laufer, 2003). Greenwashing results in what is sometimes referred more generally as a 'gap between rhetoric and reality' to describe the difference between what an organisation says and what it does (Vries et al., 2015). Greenwashing specifically refers to the intentional display by an organisation to foreground a positive environmental image while backgrounding a full disclosure of their negative impacts on the environment (Bowen & Aragon-Correa, 2014).

While greenwashing can be a common charge within the corporate world, public institutions such as government, and to some extent universities, are often less scrutinised in this respect (Vries et al., 2015). Jones (2012) examines the impact of the popular *Green League Table* on actual university greening. Created by People & Planet (UK's largest student campaigning network) the *Green League Table* provides an independent and comprehensive rating tool for environmental and ethical

performance by universities in the UK (People & Planet, 2015). The *Green League Table* has attracted much attention from universities within the UK. However, Jones (2012) argues that this public display of performance is not matched by changes in actual practices within universities. Jones (2012) contends that the *Green League Table* performance criteria are geared towards the instrumental agendas of university operational managers, taking attention away from the complex transdisciplinary and political challenges of sustainability. The same thing can be said of greening of campus of operations that do not build in opportunities for research and curricula activities that question the cultural assumptions and political values guiding these practices (König et al., 2016; McMillin & Dyball, 2009).

Much has been written on the many systemic issues which make change for sustainability within universities difficult and complex (Bernaldo et al., 2014; Breen, 2010; Gale et al., 2015; Harris, 2005; Jones, 2012; Lozano et al., 2013b; Mader et al., 2013; Moore, 2005; Shove, 2010; Sylvestre et al., 2013). These authors argue that resistance to change is born out of complex relationships between individual agency, university structures and broader economic and societal contexts in which universities are embedded and operate (Gale et al., 2015; Wright, 2010). In light of this complexity, the making of sustainability commitments and greening of campus operations should be analysed more critically in terms of actual social, political and cultural change within a university and its material consequences.

3: Lack of transparency and accountability

To avoid greenwashing, transparency and accountability around claims of commitment to EfS within universities is important. In the last few decades, sustainability concerns have been integrated into processes of organisational

accountability through the introduction of 'sustainability reporting' (Farneti & Guthrie, 2009; Higgins et al., 2015; Lozano, 2011). Sustainability reporting extends beyond the bounds of financial accountability to include recognition of how an organisation's actions contribute to the different dimensions of sustainability (Macintosh & Wilinson, 2006). This type of reporting can be carried out in a variety ways, from quantitative assessments where multiple dimensions of sustainability are reduced to a common monetary or physical unit, to more qualitative reports on the effects of action (Macintosh & Wilinson, 2006).

Currently within Australia there is no mandatory requirement for any sector to undertake sustainability reporting beyond specific government mandated environmental compliance reports (Macintosh & Wilinson, 2006). As a result, universities have been slow to take up sustainability reporting (Lozano, 2011). For example, the Australian Collaboration (TAC), a consortium of peak national community organisations, representing social, cultural and environmental interests, observed in 2012 that very few universities within Australia had voluntarily undertaken sustainability reporting (TAC, 2012).

As noted earlier, universities in Australia are become increasingly corporatized at the same time as they are asked to serve the global public good by taking action on sustainability. Hence studies from the Australian corporate/profit and non-profit sector are instructive in trying to understand why universities in Australia by and large have not undertaken voluntary sustainability reporting. Within the corporate sector, sustainability reporting provides symbolic currency (Bowen & Aragon-Correa, 2014; Higgins et al., 2015). For example, reputational improvement is reported by Australia's largest companies as the most frequently perceived benefit of sustainability

reporting (DEH, 2005; Stubbs et al., 2013). In contrast a 2006 report by TAC stated that the reasoning for the adoption of sustainability reporting in the non-profit sector centres heavily on moral and legal obligations, improved decision-making, and shaping values and opinions (Macintosh & Wilinson, 2006). Substantiating TAC's claim are findings from a study by Farneti and Guthrie (2009) who found that authors of sustainability reports (within one state department, three local government organisations, and two state public organisations) were largely motivated by the purpose of informing internal stakeholders. What these findings suggest is that profit and non-profit sector motivations for voluntary sustainability reporting vary based on extrinsic and intrinsic values placed on transparency and accountability.

A lack of sustainability reporting by Australian universities is difficult to understand, given their interest to serve the public good and to be competitive in a global market. This situation suggests a lack of appreciation of both intrinsic and extrinsic reasons for voluntary sustainability reporting. By this I mean perceiving benefits in terms of reputation, influencing society, improved decision-making, or building trust by being more transparent and accountable. This undermines not only the substance of university sustainability commitments and declarations but also the potential to transform society through the transfer of knowledge about what works and doesn't in efforts to be more sustainable. Adams (2013) insists that a lack of sustainability reporting may not be just a matter of perceiving benefits, but also stems from a lack of shared responsibility for sustainability horizontally and vertically within a university. Universities have complicated structures of governance as results of the diversity of their activities. In this context, Adams (2013) contends that piecemeal and disparate approaches to embedding EfS, lack of senior leadership and siloed academic and

operational sections have hampered the cultivation of the shared responsibility needed to hold universities to account.

4: Narrow understanding of EfS

The compartmentalised approach to EfS within Australian universities suggests they are struggling with the interdisciplinary focus of much EfS discourse. Essentially this means that commitments to EfS by universities can be more rhetoric than reality (Christie et al., 2015). EfS transforms what we see, think, learn and do in terms of our relationship to the world and each other (Tilbury & Wortman, 2004). EfS aims to build the capacity to question and critically reflect, allowing learners to examine current paradigms of unsustainability in regard to how they are produced and reproduced by certain modes of thinking and practice (Gale et al., 2015). Given this would require interdisciplinary and transdisciplinary approaches to education not currently the norm and with so much talk about EfS by Australia universities, one would imagine that capacity building in EfS would be high on the university agenda. However, a web-based study of 38 Australian universities conducted by Holdsworth et al. (2008) found that in reality academics have very little exposure to programs which develop their skills in EfS.

There are also other signs that EfS is narrowly defined. Evans et al. (2012b) examined how a cohort of 30 pre-service primary and secondary teachers at an Australian regional university understood EfS. Many of the participants in the study assumed that environmental degradation could be overcome with technical and scientific knowledge, despite the complexities brought about by social, political and economic contexts. Similarly, Brett and Marans (2012) stress that crucial to creating a culture of sustainability within universities is knowledge of issues, knowledge of procedures,

social incentives, material incentives and prompts/reminders. However, this presupposes mere application of existing knowledge, whether technical or scientific. While these efforts are laudable, they do not of themselves address systemic causes of unsustainability (Breen, 2010; Gale et al., 2015).

While instrumental knowledge is useful in guiding practices, it underappreciates the role that universities have played in creating these knowledges in shaping both sustainability and unsustainability (Beringer & Adomßent, 2008; Hammond & Churchman, 2008). Davison (2013) contends that instrumental approaches to EfS assume sustainability as an already known goal and focus on its products and outcomes. EfS requires a much more complex appreciation of what is sustainable in any given context. One of the main reasons EfS is poorly understood in Australian universities is because it is premised on the notion that sustainability is an essentially contested and socially constructed concept. (Potter, 2008). This notion can be unsettling for academics let alone for students and professionals. Both Gale et al. (2015) and Christie et al. (2013) argue that understanding sustainability as socially constructed and contested challenges disciplinary traditions which rely on a notion of sustainability as certain and unchanging. Christie et al. (2013) argue that this is why the 'creative' disciplines and to a lesser degree humanities disciplines have been more forthcoming in embracing the pedagogic innovation implied by EfS than science-based disciplines.

Davison (2008b) contends that it is not enough to convey bodies of knowledge in efforts to transform learners through EfS. Here the role of a wise teacher is to develop the capacity of the student for social and personal transformation. Giving a sense of how this capacity might be developed, Barlett (2008) combines reason with

experiential phenomena of sensory, emotional and non-rational ways of knowing in an effort to re-enchant education and curriculum development. Barlett (2008) suggests that this links knowledge with action through a relationship with nature full of meaning, awe, wonder and delight. The value of such an approach is evidenced in her examination of the Emory University faculty development program for curriculum change in the United States. Named the *Piedmont Project*, this project aims to bring applicants from all units and departments of the university together each year in an effort to workshop for their respective disciplines the development of new courses or modules for sustainability (Emory University, 2014). Using data collected from emails and interviews with project participants, Barlett (2008) found that the techniques employed throughout the project, which combined scientific knowledge of ecological relationships with an embodied experience of nature, was transformative on the level of personal and professional action. The key to transformation, Barlett (2008) maintains, is to re-enchant the dominant fact-based paradigm of both education and curriculum development by starting with an expanded sensory experience of emotional, physical and aesthetic connections.

Weston (2005) maintains that our embodiment in the world influences our experience of the world and hence the knowledge that is produced. Pointing out the disembodied approaches to education, Weston (2005) maintains that there is something strange about the practice of teaching about connections to the world in lecture theatres that are almost hermetically sealed from it. Asking, 'what if teaching went wild?' (taking wild to mean the unsettling sense of an unpredictable otherness) Weston (2005) suggests that education should create awareness of ourselves as animals and embodied beings co-inhabiting this world with others. Weston (2005) emphasises that our existing relationship to the world influences how we conceptualise this relationship

(Weston, 2005). This approach entails a connection to the world at an ontological level of understanding and responsibility, or as Roy Rappaport would say, as thinking "not merely about the world but on behalf of the world'' (Rappaport, R., 1971 cited in Barlett, 2008, p. 1077).

In König et al. (2016, p. 13) vision of what a university should look like in 2040, a strong feature is that research and learning "is driven by a concern for a better world". This implies that researchers and learners are able to perceive their connection with the world. In line with Weston (2005) and Barlett (2008) call for an embodied approach to education, McMillin and Dyball (2009) maintain that sustainability should not be taught as an abstract ideal but as a tangible concept linked to places where we live and work as a reflexive learning practice. They present the university campus as a site where what is learnt in classrooms can be applied in a way that allows learners to reflect on the broader social and economic processes which influence their behaviour and those of others. McMillin and Dyball (2009) contend that universities should aim for education which combines research, education and operations; theory and practice as part of a 'whole-of-university' approach to EfS. Others have described this type of approach in terms of a 'living laboratory' or 'living campus' (Alfieri et al., 2009; Evans et al., 2015; Sharp, 2002). Such an approach situates operational staff, academics and students collectively as change agents, in turn helping to build a collaborative space and shared responsibility for sustainability within a university (König et al., 2016; McMillin & Dyball, 2009; Tilbury et al., 2005).

Concluding remarks

Australian universities have unquestionably made important steps towards sustainability through the signing of sustainability declarations, creating specialist

research and courses on sustainability and greening of campus operations (Beringer & Adomßent, 2008; Evans et al., 2015; Ferreira & Tilbury, 2012; Tilbury et al., 2005). In this chapter, I have considered the capacity of universities within Australia to effect cultural and political transformation in line with their mission of establishing higher learning as a core public good as well as a key component of global development and economic growth. This might be taken to imply that I am only interested in the influence universities have on society and not the other way around. As society has changed so too has the role that universities have played in both reproducing and transforming social institutions and cultural aspirations. The increasing avowal of sustainability by universities is a direct response to increasing societal concern about deeply entrenched ecological and social problems.

I have shown that universities within Australia are rhetorically committed to playing their part in social and cultural transformation in the name of EfS. However, the degree to which Australian universities are making whole hearted commitments to sustainability while only focusing on greening of campus operations and disciplinary specific sustainability education, is concerning. Efforts to create a culture of sustainability is a complex undertaking as all dimensions of sustainability are interrelated in their production, reproduction and potential transformation of the current situation. Within universities this complexity is even more daunting, given the different functions of a university and the sheer number of different forms of knowledge and stakeholders that it brings together. Dealing with this complexity through EfS and an awareness of our embodiment in the world is, I believe, a way for universities to play their role in social and cultural transformation. That is, once we recognise our embodiments in all of its socio-material complexity, as Weston (2005)

highlights, we can then more intentionally work to make transformative changes that are sensitive to the whole rather than just the parts.

The emphasis on universities as places of academic freedom has carried through into modern times. This characterisation identifies universities as holding a special place in society. But what I have argued is that this romantic and slightly panglossian image is just as incoherent today as it was for the first Australian universities. Many within contemporary universities continue to deny and repress the materiality behind their thoughts and ideas. The very notion of free enquiry strict to the Athenian Tradition includes the embodied and political aspects of knowledge construction, which is at odds with dominant approaches to education taken by Australia universities today. While the call for universities to build relationships with government and industry is a sign that knowledge production is moving back into the public domain, this domain with its complicated structures of market exchanges has rendered commitments supporting elitism harder to perceive.

The survival of universities has always been dependent on their status as bastions of the highest form of education. Today there are many other competitors, public and private, in the game of knowledge production beyond university institutions. As a result, to stay competitive there is increasingly a realisation of the 'corporate university'. While this may paint a sobering picture, I remain optimistic. In the wake of this change, Australian universities can best aid the needs of our fragile planet and its people if they can create a new currency for their value as a societal institution. This currency, I argue, should be based on building the capacity of all who constitute the university, in the Athenian tradition, to question their own truth of who they are in respect to what they want to know. This would seem a role that Australian universities

can and should play in a modern world concerned about its future; but then universities along with all who they encounter would have to accept that they might themselves be transformed (König et al., 2016).

The goal of transformation is easy to declare but harder to realise in practice. This is because often commitments and assumptions which maintain sources of social power are rarely made explicit. In the next chapter, I develop a critique of the dominant conceptualisation of sustainability as sustainable development. I go on to argue that while sustainable development forms an all-embracing conceptual framework for a modernist project of sustainability, it is a contested concept and can be constructed differently. In doing so, I hope to develop an understanding as to why sustainable development has not lived up to the promise of cultural and political transformation and why Australian universities and universities elsewhere might continue to struggle to turn much of their sustainability rhetoric into reality.

Chapter 2: The modernist constitution of sustainability

Chapter 1 explored the ways in which ideas of sustainability are, or are not, taking hold within the university. All ideas of sustainability, including those circulating within universities, do not result from any immaculate conception. They have complex and worldly antecedence involving political histories of ontological perception, epistemological principle and ethical conviction. Equally, ideas of sustainability are not applied in practice as if they were being written on a blank slate. These ideas are variously shaped in and through the diverse social contexts in which they are given form. In this chapter, I describe the underlying philosophical frameworks on which ideas of sustainability rest as the constitution of sustainability. I describe the process of making sustainability in any specific social context as the constituting of sustainability. While there are many different frameworks and contexts of sustainability, I focus on what I describe as the modernist project of sustainability, and make the claim that it has been central to the constituting of sustainability in the context of universities.

I begin by first defining what I mean by the modernist project of sustainability. I then I focus my attention on the way in which this project is contested, socially constructed and embodied. Contestation refers to the different concepts used to define meaning and on the political struggles over these meanings (Hughes, 2002). Social construction refers to the cultural, political, and social commitments underpinning these meanings (Latour, 1992; Redclift, 2005). Embodiment refers to the socio-material complexes through which social realities are experienced (Clarke, 2005b; Holt, 2008). The conceptualisation of sustainability as contested, constructed and embodied is useful

for two reasons. Firstly, it acknowledges that sustainability is an act of creation that cannot be reduced to how it is talked about and or theorised. Discourses of sustainability are acts of creation which are continuously co-constructed with their embodied practice (Bernstein, 1983; Fairclough, 2009). Secondly, foregrounding sustainability as an act of creation increases awareness of ways in which sustainability can be constituted differently. In writing this chapter and carrying out this research I acknowledge that I too am involved in constituting sustainability. Thus, this thesis can also be considered a creative act co-constructed through the embodied practice of research.

The modernist project of sustainability

Derived from the latin sustinére, meaning to hold from below, the word sustainability was first recorded in western societies in the 1713 book '*Sylvicultura Oeconomica*' by German forester Hans Carl von Carlowitz to describe a method of ensuring long term productivity of forestry resources (Keiner, 2005a; Laws et al., 2002; Subba Rao & Mandal, 2008). This sense of continuity underpins most definitions of sustainability used today. However, contemporary conceptualisations of sustainability move focus from a single resource towards maintaining many different resources, and understanding how the use of these resources affects intergenerational equality (Laws et al., 2002). Here changes to human practices are thought necessary to maintain both social and environmental systems into the future.

Davison (2001, pp. 11-36) reminds us that proponents of sustainability have a common concern for human progress, but can have quite different conceptions of what this means. This is apparent in the two distinct waves of concern that have shaped the meaning of sustainability in western society. The first wave of concern involved a

reaction against the global development agenda of continued economic growth which took hold after the first and second world wars (Davison, 2001, 2008c). This agenda was overseen by organisations such as the United Nations and the World Bank and aimed to secure a safe and prosperous future by increasing the productive output of nations. While there was a tripling of the world economy between 1950-1970 it was accompanied by greater inequality in wealth between the poor and rich and environmental problems ranging from pollution and habitat loss to species extinction (Davison, 2008c; Harvey, 1996c). In response, an environmental ethic was mobilised within the western middle class by Rachel Carson's *Silent Spring* (1962) and the 1972 report to the Club of Rome, *Limits to Growth* (Davison, 2001, 2008c; Mitcham, 1995). This ethic entailed a criticism of the global development agenda of continued economic growth (Mitcham, 1995).

If the first wave of concern sought to highlight the disparity between global development and environmental conservation goals, the next wave of concern centred on attempts to integrate this disparity (Meadowcroft, 2000; Raco, 2005). The term sustainable development signifies this next wave of concern. The World Commission on Environment and Development (WCED) Report *Our Common Future* (1987) defines sustainable development as follows: "Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs" (p.16).

The policy agenda of sustainable development aims to build international consensus that developed and developing countries must protect the environment and address social inequality (Meadowcroft, 2000). Within the WCED Report *Our Common Future* (1987) the terms conservation and development are defined as serving a common operation (Meadowcroft, 2000). This link is clearly articulated in an editorial

by the OECD General Secretary in 2002: "[the] sustainable development challenge is, as the experts say, to 'decouple' material progress and the environment, by putting them back on parallel, complementary and hopefully mutually reinforcing tracks" (Johnston, 2002, p. 3).

The combining of conservation with development ushered in what Mitcham (1995) terms a middle ground for those holding anti-growth and pro-growth sentiments, or as Redclift (2005) critically terms a win/win situation. The new terms of engagement were defined as responsible economic growth (Meadowcroft, 2000). Global development and consumption itself was repositioned as a force for positive social and environmental change. Davison (2008c) describes the advent of the WCED report 'O*ur Common Future'* (1987) as a turning point. He contends that it marks a shift in environmental politics away from the notion of limits to growth towards the notion of sustained economic growth (Davison, 2001, 2008c). Underlining this trend was the translation of environmental concern into a system of choices, market preferences, prices, exploitable resources, and rights distribution. The outcome was the mainstreaming of economics to address sustainability (Redclift, 2005).

Sustainable development has become an all-embracing conceptual framework for a modernist project of sustainability. By this I mean that sustainable development bears all the hallmarks of modernity. One way of defining modernity is by associating it with the European Enlightenment of the mid-eighteenth Century. The European Enlightenment is often used to mark the transition out of pre-modern European society (O'Leary, 2007). The European Enlightenment has been constituted by modes of social organisation which emerged slowly from the 15th Century within Europe through processes of colonialism, capitalism, and rationalism, and have become influential in distinguishing modern society from traditional society (Foster, 2000; Harvey, 1996b).

Giddens (1991) argues that the key assumption in a breakage with tradition is that humans can, through the power of reason, with certainty predict and control their future. The modernist project of sustainability aligns sustainability with the key mode of modern economic organisation commonly termed capitalism (Harvey, 1996b, 1996c; Meadowcroft, 2000). Central to capitalism is the notion of continuous economic growth as underpinning the meaning of human progress (Harvey, 1996c; Hopwood et al., 2005; Mitcham, 1995; Morgan, 2012; Redclift, 2005).

The modernist project of sustainability is manifest in the initiatives of cleaner technology, eco-efficiency and life cycle assessment, a strong feature of 'greening of campus operations' which dominate the practice of sustainability within Australia universities (Bekessy et al., 2002; Ferreira & Tilbury, 2012; Harvey, 1996c; Tilbury, 2011). Termed 'ecological modernisation' by a number of scholars, the belief here is that the combining of environmental considerations, corporate interest and faith in technology will produce sustainable economies and therefore a sustainable future (Davison, 2001; Hajer, 1993; Harvey, 1996c; Redclift, 2005; Seghezzo, 2009). Under this framework continued economic growth and accumulation of capital is considered sustainable so long as it achieves decreasing environmental impact per unit of production (DeSimone et al., 2000). Hence, it is hardly surprising that many developed and developing countries and institutions across the world, who have embraced capitalism, have come on board with the modernist project of sustainability.

Conceptual confusion

The modernist project of sustainability is inherently ambiguous (Hopwood et al., 2005; Morgan, 2012). Even when sustainable development is presented as an existential force for change there still remains confusion about what it requires in practice

(Connelly, 2007; Jacobs, 1999; Mitcham, 1995). Redclift (2005) contends that the term sustainable development is so popular now that it is questionable whether there is any consistency in its use. The term is used by both activists to argue for equality and by multinationals to argue for enduring profitability. Similarly Raco (2005) points out that while developmental programs and agencies have on the one hand adopted sustainable development as guiding principle, on the other they have also adopted practices that lead to greater resource exploitation and social inequality. Despite this contradiction, the broad scale embracing of the term sustainable development gives many people hope that a shift has occurred in humanity's relationship with nature. However, others are more critical. Critique centres on the question of 'what is to be sustained?' (Redclift, 2005). For many this brings into view the conceptual plurality of often-contradictory assumptions that underpin different notions of sustainability (Davison, 2008a; Meadowcroft, 2000; Mitcham, 1995; Redclift, 2005). I maintain that keeping open the conceptual contest over what sustainability means is an important part of its practice. Hence it is important to understand how sustainability is conceptualised within the modernist project of sustainability as well as how this conceptualisation can be contested.

The modernist project of sustainability is routinely conceptualised through the 'three pillar model' that imagines three interlocking dimensions of sustainability: social, environment, and economic. In business terms, this is translated as the triple bottom line of 'people', 'planet' and 'profit' (Seghezzo, 2009; UNEP, 2012). This conceptualisation considers the strength of each pillar of sustainability to be essential to the stability of the whole. The 'three pillars model' is often interpreted in economic terms of capital stocks. In the World Bank publication, *Beyond Economic Growth, An introduction to sustainable development* (2004), the challenge of sustainable

development is presented as balancing economic, social and environmental objectives in order to allow economic development to continue indefinitely (Soubbotina, 2004). In other words, the modernist project of sustainability can be interpreted conceptually in terms of how productively nations utilise their natural, human and physical capital stocks.

One of many criticisms levelled at the modernist project of sustainability is that financial accounting of natural, human and physical capital stocks reduces human/nature relationships to only those values captured through economic metrics and indicators, and market systems (Palich & Edmonds, 2013). This criticism underscores a very important site of contestation in the meaning given to sustainability. This concerns uncertainty in how to conceptualise the relationship between different dimensions of sustainability. In this respect a contest exists between those who subscribe to a strong sustainability paradigm and those who espouse a weak sustainability paradigm (Dietz & Neumayer, 2007). The latter is often interpreted as reformist as it largely accepts capitalist solutions and methods of accounting and the former radical as it questions and contests them (Hopwood et al., 2005; Morgan, 2012). A major difference between proponents of a strong and weak sustainability paradigm is that the latter contend that different dimension of sustainability can be substituted and traded off against each other whereas the former attest to their non-substitutability (Dietz & Neumayer, 2007).

The modernist project of sustainability sits comfortably with those who seek to relate environmental and human considerations in economic terms. However, this is criticised as deeply flawed by those who subscribe to a strong sustainability paradigm (Dietz & Neumayer, 2007; Hopwood et al., 2005; Morgan, 2012; Neumayer, 2012). An alternative conceptualisation in this respect is that provided by The International

Union for the Conservation of Nature in 1994. Referred to as the 'Egg of Sustainability', this conceptualisation imagines the environment as like the white of an egg surrounding the yolk of humanity. Just like a healthy egg depends on both a healthy white and healthy yolk, sustainability depends on both the wellbeing of the environment and wellbeing of people (CEE, 2007; Keiner, 2005a, 2005b). The 'Egg of Sustainability' situates the task of sustaining the environment as intrinsic to human progress (CEE, 2007; Guijt et al., 2001). Another more radical view dispenses with the notion of sustainable development altogether. This is the fertile ground from which many deep ecologists, eco-feminists, naturalists and grass roots activists draw their inspiration and activist energies (Banerjee, 2003; Hopwood et al., 2005). Here, sustainable development is critiqued as a flawed concept because it is human centred and maintains a relationship with the Earth whereby the environment exists first and foremost as a resource to be exploited (Robinson, 2004). Focus is placed on the intrinsic value of the environment (Harvey, 1996d). Through political action, usually in outright protest, centres of political power that exploit the environment are contested (Hopwood et al., 2005).

In the rise of the modernist project of sustainability the question over 'what is to be sustained?' is often backgrounded to serve an unswerving, unquestionable commitment to human progress. Hence, important normative questions around human progress and the capacity to ask them seem to be lost. I maintain that this is the main reason why reformists focus on role of natural, human and physical capital stocks as an important element of sustainability. In effect, the modernist project of sustainability can be considered weak in terms of critique but strong in terms of alignment with modernist sources of power. Conceptualisations of sustainability which focus on the intrinsic worth of the environment and people can be considered strong in terms of

critique but (necessarily) weak in terms of political influence with the status quo. Mitcham (1995) claims that sustainability can be interpreted as the new name for the 'common good'. If so, this normative dimension then implies that the contestation over 'what it to be sustained?' is valuable to shaping and bringing to life new imaginaries of what is morally and politically sustaining.

How the modernist project of sustainability is constituted

In this section, I analyse how the modernist constitution of sustainability constructs the meanings of sustainability in specific ways. I maintain that understanding the foundations of this modernist constitution is vital to understanding the way sustainability is brought into being in universities. Here the term social construction is used to refer to cultural, political, and social commitments underpinning these meanings (Latour, 1992; Redclift, 2005). By this I do not imply that sustainability is first and foremost about subjective meaning. Focusing on the social construction of sustainability does not have to deaden its materiality (Potter, 2008). To understand the modernist constitution of sustainability it is important to understand the contexts in which it makes compelling sense, and to understand why it may be rejected in other contexts. These contexts include materials, objects and bodies as much as culture and subjectivities.

In clarifying this position, I rely on the hermeneutical notion of understanding forwarded by American philosopher Richard Bernstein in *Beyond Objectivism and Relativism*. Bernstein maintains that understanding is not like other activities but underlies and is the 'happening' of all activities. This gives understanding a foundational character which precedes attempts to know the world (Bernstein, 1983). His claim is that "we are beings constituted by and engaged in interpretative

understanding" (Bernstein, 1983, p. 137). Bernstein explores understanding as an ongoing negotiation of what can be generalised as tangible truths with its ongoing plural manifestation in the particular of lived experience. The aim is not to locate meaning within an individual or somewhere out there, in social structures or materials, but in their dynamic interaction and co-constitution.

In what follows my intention is to hold the modernist constitution of sustainability up for how it is made and how it can be made differently rather than in how it is given. In carrying out this task I draw on philosophical concepts of ontology to refer to the relationship between assumptions about the world and ways of being-in-the-world; epistemology to describe a commitment to a particular way of knowing this reality; and axiology to describe a commitment to particular ways of valuing reality (Audi, 1999; Denzin & Lincoln, 2005; Mason, 2002; Redclift, 2005).

Dualistic ontology

The modernist constitution of sustainability brings with it taken for granted commitments that may often exclude other commitments, particularly those held by humanity's underdeveloped (that is, not fully modern) majority (Redclift, 2005). Sterba (1994) conceptualises these commitments as a trade-off between human needs and meeting the needs of the environment. Capital stock models of sustainability are often framed in these terms (Seghezzo, 2009). While Sterba (1994) does bring attention to a major tension within the modernist constitution of sustainability, he overlooks the deep optimism held by proponents of sustainable development that ecological requirements can be met at the same time as maintaining and expanding the field of human interests. Underlying this optimism is the notion that ecological limits are arbitrary artefacts of the present state of technological and economic development

(Davison, 2001). Evident here is the ontological assumption of human exceptionalism; the perception that humans are somehow separate from and masters over nature. Feminist philosopher Val Plumwood contends that the western project is littered with dualistic relations of this master-slave kind. Plumwood (1993) argues that dualistic relations within the western project come in many forms e.g. culture/nature, theory/practice, male/female, mind/body, rational/animal, reason/emotion, universal/particular, human/nature, civilised/primitive, expert/layperson etc. (Plumwood, 1993; Warren, 1998). These relations are hierarchal, as in the master-slave relation, and represent a denied dependence on the other. Furthermore, the qualities of the master are foregrounded as heterogeneous and the those of the subordinated are backgrounded as homogenous. A key feature of dualistic relations is the rendering of truth, power and legitimacy to only one side of a binary pair (Plumwood, 1993).

The deep optimism associated with the modernist constitution of sustainability can be understood to be a direct result of dualistic ontology which favours and foregrounds concerns of human masters over that of the slave of nature. The modernist constitution of sustainability assumes a split reality in which different 'laws' apply to humanity than apply to the rest of reality. Based on this assumption modernity is a framework of awareness that allows the interaction between humanity and the rest of reality to be theorised as a clash between opposites (humans vs nonhumans, nature vs culture, economy vs environment etc). Plumwood (1993) contends that overcoming duality is not about reversing hierarchies. She is thus critical of environmentalist arguments that seek to place the interests of nature as being primary to those of humanity. Thomas (2005) claims that a non-dualistic approach requires an 'ecological perspective'. This perspective homes in on the interaction and relationship between opposites without

completely dissolving their distinction. Similarly Freudenburg et al. (1995) contends that the overcoming of dualistic relations requires not just appreciation of the existence, importance, and relation of opposites but also their conjoint constitution. This is to argue that binary pairs are always in recursive relation. In this view, humans and nature are mutually entwined in their constitution (Potter, 2008).

Objectivist epistemology

The modernist perception of a riven universe in which human and nonhuman realities are fundamentally discontinuous underpins an epistemological framework in which objective and subjective forms of knowledge are similarly discontinuous. The modernist constitution of sustainability relies on an assumption that accepts as given determinants of knowledge and understanding. This belief in knowing is based on the notion of objectivism much celebrated by both philosophers and natural scientists alike (Davison, 2008b). Bernstein (1983, p. 8) defines objectivism as the appeal to an ahistorical matrix in determining the nature of truth and rationality. This represents a belief in a permanent and rigid grounding of knowledge. Here it is thought that true knowledge is only possible by detaching from the subjective world of values through the power of reason validated by empirical means (Denzin & Lincoln, 2005). As part of this epistemology, the relativistic and subjective nature of knowing has been relegated a second place at best and irrational at worst. The result is a divide between those who hold foundational claims of knowing and those who are more nihilistic and deny that any shared knowing is possible (Bernstein, 1983).

Proponents of relativism see truth to be historical and relative to specific concepts, theories, paradigms, society, or culture. Bernstein (1983) points out that relativism is different to foundational epistemologies and involves letting go of the desire to

establish categorical and universal claims, standards or principles. Bernstein (1983) goes on to argue that throughout modernity objectivism has had a theological undercurrent that favours ontological certainty. This he maintains, is a legacy of the father of modern philosophy, Rene Descartes. Bernstein draw attention to how Descartes's dualism of the subject object relation, that is the 'I' as separate from 'things' in the world, propels one to search for a firm foundation 'Archimedean point' for knowledge. Here a reflection on our finitude sparks a dependency upon an ultimate knowing supported by a framework of objective truth. In this context one can appreciate the terrifying nature of epistemologies which present uncertainties. Bernstein (1983) claims that we must transcend the dualism between objectivism and relativism in our attempt to understand.

It is obvious that attending to the material consequences of unsustainability requires an appeal to a truth that is more than just what we think or believe and can transform the material world. However, concern for the world cannot be nurtured through an objective and disembodied truth alone. Potter (2008), drawing from the work of French sociologist of science Bruno Latour, maintains that we must conceptualise facts about the world as partial renderings of reality to bring us closer to matters of concern. Here recognition is given to how all knowledge production is intertwined with culture. Just as there is no one culture, there is no one single reality from which to compose the constitution of knowledge as finished (Latour, 2009). As Bernstein (1983) would argue the constitution of knowledge is always an ongoing negotiation of what is determined as general about the world with what is undetermined as particular to it. Many realities collectivised in making an ongoing truth may seem less certain but it is the only way possible to conceptualise a common moral world; a world that does not abstract and

dismember humans as above nature, and objectivism as above relativism (Bernstein, 1983; Latour, 2009; Plumwood, 1993).

Consumerist axiology

All dualistic constitutions of reality are underscored by relations of power which assign value unequally across binary pairs, and, hence, also represent axiological commitments. Redclift (2005) argues that a major axiological commitment taken for granted within the notion of sustainable development, is the commitment to increasing growth with a scarcity of resources through technology. But why is it that technology is the source of so much modern optimism in the face of the challenge of sustainability? In answering this question, it is first important to understand how continued economic growth has become a self-validating end of human progress.

It is reasonable to assume that the thought of progress in life stems from a desire for improving upon what we are. However, the act of improvement implies that there is something to move forward to or move away from. Mitcham (1995) insists that the idea of progress is initially born out of seeing temporal change as part of one big cosmic cycle. A cycle implies a return to an original state, however, Mitcham maintains that as historical consciousness gets larger and larger existence becomes bounded in terms of an unimaginable beginning and end. In this bounded yet immense existence, the difficulty in imagining a beginning or end focuses our attention on the requirements of the present. This present thus becomes conceptualised as linear progress towards a perfect future or away from an imperfect past (Mitcham, 1995). As noted already this notion of progress is a dominant feature of modernity and what is said to distinguish contemporary culture from tradition (Giddens, 1991). But as Mitcham (1995) argues, when the future becomes hard to specify, as the post-modern

sentiment has brought to light, then progress is more about escaping our imperfect past and therefore the future is conceptualised as indefinite/unlimited. The lack of a final state in a progressive mythology allows one to denote a continual betterment of the past without end or limits. The goal of perfection is given over to the goal of continual betterment of the human condition (Mitcham, 1995).

It is exactly when sustainability is aligned with a mythology of human salvation through continued material growth, that technology becomes so alluring (Davison, 2008c). In pre-modern western history, certainty was provided by God or an ultimate prime mover, an outside force. What appears to be a significant mark of modernity is the belief that we no longer need God to intervene to cure our sins or cultivate our crops; rather we imagine ourselves as masters of our own certainty through the power of reason (Bernstein, 1983; Giddens, 1991). Noble (1999) maintains that during the Enlightenment the mythic notions of divine agency were replaced by technological agency; reason took the place of God in worship and led to the birth of faith in technology. The pursuit of knowledge was expanded from knowing nature through mere contemplation to having the power to change and control nature through experimentation and intervention (Ihde, 1998). Progress towards an ultimate knowledge and control over the world replaced the pre-enlightenment notion of redemption by spiritual contemplation (Noble, 1999). With increasing reliance on instrumentation in uncovering nature's secrets, a strong linkage between epistemologies wedded to certainty and technology was forged (Ihde, 1998). Expressed this way, technology becomes not only an act of transcendence beyond the uncertain terms of our life, but it also presupposes that there is no limit to our potential. Technology then becomes the means through which to realise human divinity without leaving this world (Noble, 1999).

By highlighting the transcendental qualities invested in technology by modernism one can begin to understand how it has become represented as a neutral means, as instrumental objects, separate from normative ends (Davison, 2008a). As Davison argues, this normative dimension is universalised as the teleological end, the final good of unending economic growth. This co-option of the normative dimension of sustainability reduces to an objectivist concern with technological solutions.

Rees (2010) claims that a new cultural narrative is needed if a new pattern of human progress is to be created in place of current modernist constitution, one that tackles head on the economic narrative of continuous material growth. The commitment to continuous material growth within the modernist constitution of sustainability allows nature to be used as mere means analogous to the means of technology (Davison, 2008c). This commitment has led to the contestation over values within the modernist constitution of sustainability to become less visible. The result has been the co-option of sustainability as a concept universalised in line with the capitalistic and global development agendas of more developed nations (Davison, 2001). I am not claiming that sustainability is a capitalistic and global development agenda. My claim is that the modernist constitution of sustainability is innately aligned to these agendas, but not that all sustainability discourses and practices are. Sustainability is constituted by a contradictory rationalities (Raco, 2005), and hence, should be contested not only in its practical means but also in its normative ends (Davison, 2001, 2004, 2008a). This would then keep alive the potential to develop alternative future constitutions of human progress.

Contesting the modernist constitution of sustainability

I now shift focus to how the modernist constitution of sustainability can be contested. I begin by drawing from philosophy of technology literature to argue for wiser technological choices that do not reduce the field of technology to value-neutral objectivist solutions, on the one hand, or to normative lists of good or bad objects, on the other. I then argue for 'the place of consumption' using literature on ethical consumerism and voluntary simplicity to challenge the un-reflexive nature of the modernist constitution of sustainability.

The value of technology

An argument for the transcendental allure of technology may not be very palatable. Even if one accepts that humans have a fixation with technology they may simply say that it is not technology that changes the world it is how humans make use of it that does. Proponents of this position forward that technology is somehow value-neutral when it comes to creating futures, where the role of creating and choosing between technologies should be left to scientists and technocrats. Taking on board this position one would see the relationship between humans and technology as instrumental. Technologies are seen simply as means to the purposes of human ends (Davison, 2004; Feenberg, 2010a) .

On the other hand, someone may take a more determined perspective and point out that technology is constructive or it can be destructive. The deterministic position is often taken when the technocrat claims the salvation of 'ecological modernisation' or when the luddites claims the merits of leading a simple life (Davison, 2004). While deterministic accounts on the one hand acknowledge social power implicit within technology, on the other they leave humans behind in the creation of possible futures.

Before offering a more nuanced position it is helpful to provide an example of how technology can affect relations of power.

Feenberg (2010a), drawing from the work of Karl Marx, highlights the relationship between technology and the conditions that control human labour. Here the owner of a factory, for example, has both economic and technical interest. This is exemplified in the industrial revolution and how the deskilling of workers and partition of duties through technology not only increased production and profit, but also disempowered the worker. By subordinating workers to technical acts of management the hierarchy of subject (owner) and object (worker) was enforced for the sake of efficiency gains (Feenberg, 2010a). The use of technical ordering to control is termed by Feenberg (2010a) as 'operational autonomy'. This allows management and administration to exclude the worker from the decisions of the organisation. With increases in the technical sophistication of an organisation, management and administration are able to perpetuate an ever increasing supremacy (Feenberg, 2010a). The interest of the owner to maximise profits resulted in technologies replacing what was once a craft specific to an individual worker. As the role of the worker became less demanding of skill the worker became less powerful in negotiating their rights and in effect more expendable.

Interests and ideologies not only favour particular technologies but also favour particular knowledges (Feenberg, 2010a, 2010b). Latour and Woolgar (1979), in setting out a strong programme for sociology of science, maintained that scientists are not discovers of a pre-given world of objects but rather constitute objects through their artful creativity. In their account, they counter the myth that science is indeed value-free and preface the value-laden nature of scientific progress. In the same way technologies can then be understood not to be value-neutral but to reflect distributions

of social power (Feenberg, 2010a). But technologies are not determining in some autonomous way towards utopian or dystopian futures. Their role in creating sustainable futures depends on how power is negotiated.

Looking closely at the development of technology it is clear that at every point in the development of a technology there are choices made. However, these choices are not made in some vacuum but are made in the context of competences, meanings and materials (Shove et al., 2012, pp. 6-20). These elements of practice provide the complex of possibilities in which the social power of technologies operate (Ihde, 1998, pp. 51-57). In effect, technologies do not follow a uni-linear path of progression but at every stage are socially contingent (Feenberg, 2010b). Embodied in our experience technologies can inhabit our world as much as we can inhabit technology. By becoming aware of how different technologies weigh choice towards a particular way of life, experience or end, we can then be more intentional in working to create sustainable futures through our choice of technology.

The place of consumption

Material levels of consumption are often cited as the fundamental cause of climate change and environmental resource depletion (Clarke et al., 2007). This analysis has come under fire for being rather incomplete and reductive. For example, Neumayer (2012) asserts that in human developmental terms sustainability is more than just about consumption. While this is a valid point, it underappreciates how a focus on consumption brings into view the troubling consequences of global capitalism (Garcia-Ruiz & Rodriguez-Lluesma, 2014). There is no doubt that the quality and quantity of human consumption is a significant factor in the state of the environment. Sampson (2014) asserts that the organising principle of many contemporary cultures is

consumption. So far as consumption of materials is required to sustain life, consumption would then seem a reasonable point of entry to examine contesting notions of human progress and what it is morally and politically sustaining. In this context, I now draw from literature around voluntary simplicity and ethical consumerism to show how they provide points of contestation around human progress and as such can serve to politically innovate the modernist constitution of sustainability. Both can be considered political innovations of consumer culture. That is, both can play a role in building cultures based on solidarity and the capacity to question capitalistic and global development agendas.

Ethical consumption

Individual behaviour that fosters more ethical consumption practices is often a focus of sustainability initiatives (Adams & Raisborough, 2010). Ethical consumption can be conceptualised as reinforcing a reflective process of moralising market exchanges (Goodman, 2004). Consumption is effectively taken to be a form of political action, relying on the assumption that informed consumers have power to change what is offered through the marketplace (Shaw & Black, 2010). This approach can be taken to be more reformist than radical so far as it attempts to reposition cultures of individual consumption rather than oppose them. Ethical consumerism is often criticised for reinforcing a depoliticized landscape by encouraging individual self-interest which is at odds with ethical registers of co-operation and collective action needed to build sustainable communities (Clarke et al., 2007; Smith, 2005). Clarke et al. (2007) challenge assumptions that see the actions of ethical consumers as motivated by individual self-interest. They argue that a backlash against ethical consumerism may miss how new forms of citizenly action are constituted through creative forms of consumerism. In their study of ethical consumption in the UK, Clarke et al. (2007)

found that ethical consumption is an innovation in doing politics. The authors of the study contend that individual ethical consumers can be understood as an organised movement with different political aims and agendas that are themselves dependent on the information of intermediary actors such as non-government organisations and social movements. They argue that as an organised movement individual ethical consumers participate in market exchanges apolitically rather than de-politically in forming wide networks of solidarity (Clarke et al., 2007).

Despite the good intentions of individual ethical consumers, political innovation is not guaranteed. Political innovation would also be dependent on the market itself. For example Adams and Raisborough (2010) assert that while hard to locate objectively there is at least the perception that when one buys an ethical product, say fair trade coffee, that all that is being bought is clever marketing. Highlighted here is that a market dominated by indirect relations with others separated by time and distance, makes it hard to validate the actual effects of ethical consumerism. Hence, the political power of individual ethical consumers is undermined by a marketplace which offers little choice and where misinformation is common (Shaw & Black, 2010).

A number of studies have shown that a focus on the 'local' through co-operative structures is important to building wide networks of solidarity through ethical consumption. (Corkery, 2004; Fonte, 2013). The *Gruppi di Acquisto Solidale* (GAS) movement in Italy provides an example. GAS is made up of groupings of households which band together to purchase products straight from producers. In a study of the discourses and practices of different types of GAS, Fonte (2013) found that members accord priority to forming solidarity with local producers, GAS members, and local communities. The study found that solidarity at the local level was an important aspect of creating a concern for global publics.

However, a focus on local economies through co-operative structures can have politically perverse outcomes. This is made explicit in a study by Franklin et al. (2011) of a community food co-operative based in Stroud, UK. After one year the project was only able to recruit those already committed to greener issues. This is despite the aim to recruit lower income groups comprised of people with a diversity of socio-cultural backgrounds. The authors cite the middle class educated make up of core members, identified by outsiders as sustainability activists, as a reason for why the project has not lived up to it engagement goals. Another reason cited was the high price and limited range of goods available, an outcome of supporting local producers. While valuing local producers, this tended to further exclude low-income groups. This in turn affected demand for produce and the number of local producers recruited (Franklin et al., 2011). In their study Franklin et al. (2011) conclude that the ability of co-operatives focused on local economies to form wide networks of solidarity depends on the socio-cultural grouping of individuals involved. This was also highlighted in the GAS study where Fonte (2013) found that some members were motivated by a small and homogenous co-operative focusing on relations among existing members, and others on a large and diverse co-operative as an instrument for wide reaching political action.

Voluntary simplicity

Farber (2013) describes voluntary simplicity as an ongoing cultural experiment constituted by self-conscious individuals concerned with rightful livelihoods, the reclamation of autonomy and building of community. Voluntary simplicity is sometimes associated with the American countercultural turn brought about in the 1960s which led to the 'back to the land' movement of the late 1960s and 1970s (Farber, 2013; Sampson, 2014; Zavestoski, 2002). It has also been associated with many different religions and western spirituality in the sense that the act of

dematerialisation brings one closer to the sacred (Cherrier, 2009; Kahl, 2012; Walther et al., 2016). A phrase coined by social critic Theodore Roszak in 1969, voluntary simplicity is often described as a movement or cultural rebellion against technocracy and social hierarchy implicit with mainstream capitalism (Farber, 2013). Similarly Clarke et al. (2007) define voluntary simplicity as distinct from ethical consumption on the basis that simplifiers position anti-consumption as a more valuable focus. For these reasons, simplifiers are often considered radical in their approach to political innovation.

For many who identify with voluntary simplicity the focus is to dematerialise their lifestyles (Cherrier, 2010). But as Cherrier (2009) insists this does not imply anti-consumption so much as sacred consumption through the transcendental experience of disposal (Cherrier, 2009). The transcendental experience of disposal is described by Cherrier (2009) as an emancipation from the profanity of consumer culture and its incessant desire for accumulation of things. Emancipation involves voluntarily making sacrifices in letting go of possession over materials. This is performed through divestment rituals of giving and receiving materials without capitalistic exchange. Materials are not so much emptied of meaning but filled with sacred meaning connected to livelihoods (Cherrier, 2009).

Voluntary simplicity is not about avoiding material consumption. The emphasis is on using materials that rely less on industrial systems, where careless use and waste is the bane of consumption, and more on human scale systems where an ethic of material custodianship is nurtured (Cherrier, 2010; Elgin & Mitchell, 1977). Custodianship preserves a human connectedness to materials by making materials an expression of one's personal life, history and relationships (Cherrier, 2010). As such materials are valued beyond what capitalistic markets can appreciate.

Cherrier (2009) notes that the materials consumed by simplifiers are not seen as meaningful in themselves, as is thought in the case of a consumer culture, but ingredients to allow people to lead inwardly rich lives. In effect, voluntary simplicity makes individuals more self-directing where skills and competencies are embodied rather than outsourced to the market (Elgin & Mitchell, 1977). This can be related to a desire for emancipation from consumer culture and a finding of one's self (Cherrier, 2009). The self-sufficiency of simplifiers does not mean the capacity to build solidarity is thwarted. In fact, it is through active social engagement and personal relations in which skills, competences, materials are shared in being self-sufficient, in effect building strong bonds of solidarity. Material objects are thus constructed as a reminder of our solidarity with others through time and place (Cherrier, 2010).

Concluding remarks

Sustainable development has become an all-embracing conceptual framework for the modernist constitution of sustainability. In this chapter, I have shown that the modernist constitution of sustainability is a quest of transcendence more than a practice of making good in our world. I have shown that this has come about precisely because it serves a very specific political and social order that seeks to assert a universal claim over how humans should progress yet is ambiguous in its claim to integrate the needs of humans and nature. The modernist constitution of sustainability lays the foundation for sustainability purely concerned with technological means towards endless growth. This sort of concern then only invites those who hold expert knowledge sided to a development agenda to participate in decision-making for sustainability (Ratner, 2004).

If the project of sustainability is inherently contested and can be constructed differently then an important part of being more sustainable in practice is greater dialogue and participation between all those concerned, from lay person to expert. If all knowledge is inheritably social then we must accept that true and authentic knowledge involves the "mediation of the universal and particular" (Bernstein, 1983, p. 146). Davison (2008c) forwards that sustainability is the very essence of 'practical reason'. Rather than reducing sustainability to a theory and a practice that competes for universal acceptance, 'practical reasoning' allows certainty and uncertainty, objectivism and relativism, humans and nature, means and ends to be held together in an ambivalent appreciation of truth (Davison, 2004, 2008a). This type of reasoning would allow sustainability to be more readily seen as an ongoing dialectical process between the universal (constructions of what we know about our relationship with the world) and the particular (the grounding of these constructions through lived experience) (Bernstein, 1983).

In a world where our time is exceedingly appropriated by a capitalistic market economy it is no wonder people struggle to find the time to engage in extended and contextual moral reasoning, choosing instead to follow the patterns and habits laid down by dominant social institutions. In crafting a life based on practical reasoning we need not give up on the goal of human progress. But we could be more forthcoming and reflexive in embracing different perspectives of what it means to progress. By being open to contestation over what defines human progress we creatively engage in construction of possible futures that are not simply the repetition of the present. Both ethical consumption and voluntary simplicity bring into view 'what is to be sustained?' As such, they both present one of potentially many important sites of contestation of

the modernist constitution of sustainability. In effect, both ethical consumption and voluntary simplicity provide avenues to humanise consumption.

The stripping away of meaning from materials or technology is often used as a conceptual strategy of anti-materialists to resist the temptation of excessive consumption (Cherrier, 2010). However, our embodiment influences our representations of the world and is important to the identities we create of ourselves (Benwell & Stokoe, 2006). Cherrier (2010) notes that this demarcation of a meaningless material world and meaningful social world is a legacy of Cartesian dualism. By taking an anti-materialistic position we deny our own embodiment (Cherrier, 2010). Rather than stripping meaning from consumption and technology, investing meaning into them could be productive in both understanding sustainability and who we are.

What I have hoped to show in this chapter is the important role that embodiment plays in understanding the value of technology and the place of consumption in constituting sustainability whether it be within universities or society more broadly. Important here is realising that technology and consumption are always constituted in the context of their socio-material setting. This more dialectical appreciation provides a powerful tool to not only contest the modernist constitution of sustainability but also unsettle its fixity opening up space for creativity and transformation (Harvey, 1996a). A focus on sustainability as an embodied practice introduces new challenges by prefacing a complex plural truth to what sustainability is and what should be done about it (Laws et al., 2002). In this way sustainability need not be interpreted as some reversion to the past or some utopian dream of the future but an ongoing project of negotiating the complexities of our embodiment. A lack of attention to our embodiment I conclude has done more to reproduce rather than reorientate humanity's trend of

unsustainability. In light of the focus of this research, I maintain that understanding and cultivating the embodied practice of sustainability within universities is paramount to the roles these institutions can play in making good in our world.

Chapter 3: Understanding the practice of sustainability

In Chapter 2 I argued that the modernist project of sustainability is founded on a constitution of specific ontological, epistemological and axiological commitments that now have global power in promulgating a certain notion of what it means for humans to progress. I also argued that there are contesting notions of human progress which offer possibilities for constituting sustainability differently.

This chapter articulates the methodology I used to study how meanings and actions of sustainability are constituted in an Australian university. To study how sustainability is constituted by others, however, necessarily invites questions about how the subject of sustainability is also constituted by the researcher. Fien (2002) argues that different methodologies of research into sustainability generate different kinds of solutions. In other words, sustainability is constituted differently depending on how it is studied. In this study, I choose to focus on how the practice of sustainability is constituted through the lived world of participants at the University of Tasmania.

I situate myself within the qualitative social research tradition. In this chapter, I present the main philosophical arguments important to the empirical component of this research. I first outline the distinction between qualitative and quantitative research traditions before explaining the distinction between interpretive and positivist paradigms. I then outline my methodological position as a form of dialectical constructivism. In defining this methodology, I draw on David Harvey's conception of dialectical thinking, Richard Bernstein's notion of understanding, Elizabeth Shove, Matt Watson, and Mika Pantzar's elemental framework of practice and Maarten Hajer's definition of discourse. I explain the research methods and analytical

framework that were employed to answer the primary research question: 'In what diverse ways is the practice of sustainability brought into being at the university?' I finish this chapter by outlining ethical considerations that have been attended to throughout the research process.

Qualitative and quantitative social research traditions

The contemporary social researcher is presented with many different methodological positions, standpoints and approaches that can be used to warrant knowledge claims. All research is built upon philosophical claims and choices about how reality is known (Graham, 2005). That is, the adoption of a methodological framework comes with distinct ontological and epistemological premises (Graham, 2005; Long et al., 2000). Due to these methodological premises, qualitative social research can be presented either as compatible or incompatible with quantitative social research (Olsen, 2004). Methodological compatibility hinges on the assumption of naturalism whereby it is thought that the social world can be studied with the methods of natural science (Graham, 2005). A familiar example of this naturalistic stance is the attempt by a social researcher to adopt statistical methods in making their findings quantifiable. Arguments for a naturalistic approach to studying the social world were forcefully advocated by the father of sociology, Emile Durkheim (1858-1917). In an attempt to distance his work from abstract philosophical inquiry, Durkheim argued that social phenomena should be empirically validated and studied scientifically (Ritzer & Stepnisky, 2014a; Travers, 2001). Durkheim was thus interested in reducing social phenomenon to quantitative attributes.

On the other hand, those advocating the incompatibility of quantitative and qualitative social research hold to an anti-naturalistic stance. Anti-naturalism, which later gave

rise to many varieties of social constructivism, assumes that the social world is fundamentally different from the natural world and therefore deserving of different methodological appreciation. Here it is claimed that a fundamental distinction should be drawn between qualitative and qualitative social research (Graham, 2005). The views of Max Weber (1864-1920), another influential figure within sociology exemplify this stance. Weber believed there was a distinction between the study of history and sociology. For him, history explained individual actions as general laws and causal processes, while the aim of sociology was to understand the meaning and purpose individuals give to their own actions. Weber's interpretive version of sociology took into account the idiosyncratic quality of individuals (Travers, 2001). For Weber, the specific social context of individuals and their conceptual world were important and considered by him as constructed. Understanding this conceptual world while potentially useful as a heuristic to analyse generalities, was not to be confused with descriptions of empirical reality (Ritzer & Stepnisky, 2014b).

Interpretivist and positivistic paradigms

Social research methodologies are often defined along a linear continuum between interpretive and positivist paradigms (Mansvelt & Berg, 2010). Here the term paradigm is used in the sense that Denzin and Lincoln (2003) use it: "[a] set of beliefs and feelings about the world and how it should be understood and studied". A variety of intellectual approaches are usually positioned towards the positivist paradigm, such as realism, objectivism, and structuralism. Relativism, subjectivism, constructivism, ethnomethodology, symbolic interactionism, and grounded theory are usually positioned towards the interpretive paradigm (Clarke, 2005b; Denzin & Lincoln, 2003; Travers, 2001; Winchester, 2005).

As implied by the idea of a continuum, the boundaries between different paradigms are often unclear and weak, with considerable overlap between them. As Maxwell (2011) points out, the term 'paradigm' can give the false perception that research paradigms are homogenous and discrete. Bearing this criticism in mind, I here characterise key differences between interpretive and positivistic paradigms so as to highlight the possibilities of studying sustainability in different ways (Johnson & Onwuegbuzie, 2004).

While there are different varieties of positivism such John Austin's legal positivism (1790-1859) and Karl Popper's (1902-1994) moral positivism, the beginnings of positivism is usually associated with French philosopher and sociologist, Auguste Comte (1798-1857) (Mautner, 2000a). Comte, sceptical of metaphysics and superstition, argued that knowledge of the world should be based on empirical fact (Mansvelt & Berg, 2005; Mautner, 2000a). The positivist paradigm is based on a realist ontology whereby knowledge is gained through distance and abstraction. This ontology posits the mind-independent nature of reality. Its proponents claim that truth is universal and can only be known by maintaining the epistemological assumption of being objective. By holding to the assumption of objectivity one maintains that not only is it possible but necessary to remove and minimise any interaction of the observer on what is observed (Denzin & Lincoln, 2005). In taking a positivist approach to studying sustainability, I would assume that sustainability is something that can be stabilised as a set of principles for application, across different cultures. Guided by this assumption, I would seek to develop an uncontested universal definition of sustainability and then develop objective indicators of progress towards this defined end-state.

The interpretivist paradigm is often aligned with the postmodern turn towards situated knowledges starting in the 1980s (Clarke, 2005a; Mele, 2017). The interpretivists' paradigm is based on an ontology where claims to truth are intertwined in the reality within which they are situated, with the result that truth is always positional and only ever partial (Olsen, 2004). Its proponents put human experience and individuals at the centre of reality or realities assuming that understanding grows through immersion, (Law, 2004b; Long et al., 2000). An interpretivist would stress that no matter what reality is, any account/representation of it is inherently value-laden and socially constructed between knower and respondent (Denzin & Lincoln, 2003). As such, to know is to know our own embodiment in what we wish to understand. For interpretivists, the specific context through which participants understand their own activities and social worlds are of interest rather than attempts to generalise (Denzin & Lincoln, 2003; Travers, 2001). In adopting an interpretivist position to studying sustainability my focus would be to explore how the truth of sustainability is constructed and experienced. The intention here would be to reveal how sustainability is made real through accounts/representations by individuals in situated contexts rather than trying to generalise across them.

A dialectical approach to a constructivist methodology

By adopting a purely positivist paradigm, if purity is at all possible, as the basis for my research I would miss the many ways sustainability is socially constituted. Echoing this claim Fien (2002) notes how sustainability as a research topic is commonly situated within the life science and technological design disciplines within universities. The result he maintains is a research endeavour that neglects the cultural and social dimensions of sustainability. The focus on the greening of campus operations by Australian universities is an example of the practical manifestation of this type of

research (Bekessy et al., 2002; Ferreira & Tilbury, 2012; Tilbury, 2011). The effects of this research agenda are often translated into attempts to change practices through information and knowledge of foundational truths (Berthoû, 2013). While a positivistic approach is capable of providing stable and generalisable findings it does so at the cost of de-contextualising them from experience in everyday life (Berthoû, 2013; Denzin & Lincoln, 2005). The complexity of this experience includes influences of social, cultural, political and institutional contexts on habits, learned behaviour and meanings people give to their practice (Akram, 2013; Sewell Jr, 1992). By not taking into account these complexities practices are often mapped solely in terms of individual behaviour (Berthoû, 2013; Shove, 2010; Shove et al., 2012). Many of the government sponsored interventionist programs focusing on behaviour change draws from this type of research (Evans et al., 2012a). Sociologist Elizabeth Shove has coined this type of research the 'ABC' behaviour change paradigm where 'A' stands for attitudes, 'B' stands for behaviour, and 'C' for choice (Shove, 2010).

Equally, if I were to choose a purely interpretive paradigm, again if purity were possible, I may overlook the material reality of social phenomena. Emily Potter (2008) provides a stark criticism of cultural studies in this light. She contends that cultural studies through its exclusive focus on the subjective dimension has relegated the material world to an abstraction and denied its actuality. The effect has been "a cultural studies that deadens the complexity of its own worldly situation" (Potter, 2008, p. 172). Potter's critique highlights how an extreme emphasis on social construction can result in relativism and therefore provides no objective footing for any claim to truth (Potter, 2008). Potter (2008) draws attention to the anxiety a social researcher may have in examining sustainability. This anxiety presents itself as a confusion over choosing between either an interpretivist or a positivist paradigm and then having to accept the

limitation of grasping material reality in terms of the former and social reality in terms of the latter (Travers, 2001). However, Winchester (2005) contends that the framing of methodology as either interpretive or positivistic is problematic.

Bruno Latour, philosopher, anthropologist and sociologist suggests it is problematic only if we maintain an absolute separation (Latour, 1992). The anxiety of carrying out qualitative social research stems from broader contests throughout western history. Bruno Latour maintains that anxiety, or trap as he calls it, while being formed over the course of western history, was cemented by Immanuel Kant when he separated the world into things in themselves that lack agency and the transcendental ego, which is full of agency (Latour, 1992). This sets up a polarised choice of 'scientific' or 'sociological' accounts of social phenomena, a choice that subsequently saw some sociologists increasingly strive to fashion a social science that drew on the methodologies of physical sciences (Latour, 1992). Latour terms the opposing trajectories of this trap the subject/society pole and object/nature pole and locates it as a defining feature of modernity. As part of this modernist project, good social studies involve an appeal to the nature of things in and of themselves through objective knowledge and bad social studies involve an appeal to the social construction of things through subjective knowledge (Latour, 1992). In his book *Politics of Nature, How to Bring the Sciences into Democracy (2004)*, Latour outlines the political consequences of this methodological dualism. He maintains that the outcome is a specific constitution of reality. This constitution constructs society as an active entity of endless concerns imprisoned by their own subjectivities with no purchase on truth. This rabble of endless concerns must therefore be silenced by appeals to the nature of things. Nature, while a passive entity, is constructed as a matter of fact made to speak by experts who claim that they have not let truth be contaminated by human hands

(Latour, 2009). However, as Latour has noted consistently since his first book, with Steve Woolgar, *Laboratory Life: The Construction of Scientific Facts* (1979), expert knowledge free from human hands is a myth that serves only to render politics the mindless chatter of the social world and truth the domain of latter-day saints such as scientists, experts and philosophers with essentialist leanings (Latour, 2009; Latour & Woolgar, 1979).

If the nature of social reality is indeed a political as much as an epistemological question, then apprehending the co-production of Latour's subject/society pole and object/nature pole may yield possibilities for making the world differently through research (Harvey, 1996a; Latour, 1992). Based on Latour's critique, in what follows I outline the basis for a dialectical approach to a constructivist methodology using David Harvey's notion of dialectics (Harvey, 1996a). In using this approach, I hope to hold dualistic constructions of methodology in more pragmatic terms. By this I mean using methodological positioning as a heuristic with which to solve specific problems rather than to make any absolute claim about methodological choice (Maxwell, 2011). Different problems may require different methodological assumptions and multiple approaches (Maxwell, 2011). I aim to use dialectical thinking to keep a focus on how the practice of sustainability is co-constituted through its lived material and social reality (Bernstein, 1983). I outline how understanding practice dialectically through a 'theory of practice' offered by Shove et al. (2012) is helpful in taking account of the socio-material complexities in how sustainability is brought into being. I maintain that understanding the practice of sustainability dialectically, places practice at the foreground of research that aims at the transformation of social orders (Shove et al., 2012).

Adopting a dialectical constructivist methodology means that truth needs to be continually achieved as a process rather than stabilised as an entity (Bernstein, 1983; Harvey, 1996a). Hence, I consider methodological choice as a matter that implies participation, one which is inherently value-laden and political (Latour, 2009; Latour & Woolgar, 1979). Here the researcher and research participant are not instruments for truth-finding but are performers in truth-making. By being conscious of the complexity through which participation in truth making is socially constructed, I maintain that researchers are then more capable of seeing their own internalisation of political orders as well as those of others. In this way research is not only a practice of truth making, but also a form of moral and political practice (Bernstein, 1983; Dowling, 2005; Dunn, 2005).

The conceptual tool of dialectics

Law (2004a) contends that the world is unpredictably messy, vague and slippery. This suggests we need new ways of understanding reality that avoid over-simplifying and generalising what we seek to understand: we need methods that work with and that do not deny messy realities. My research agenda is to understand the lived interplay of material and social realities in constituting the practice of sustainability.

The concept of dialectics articulated by political geographer David Harvey is useful in moving between or across methodological positions that are imagined existing on either sides of a metaphysical chasm. The term dialectic is used by Harvey (1996a) to conceptualise reality as a process, rather than as a stable state comprised of recognisable entities. While such entities exist, they exist as achievements, that is as things stabilised out of a reality always in flux. These entities or forms, while appearing to have permanence, are in fact internally heterogeneous. They are, that is,

contradictory at every level, due to the complex of multiple processes and internal relations that constitute them, and which they internalise. These processes and relations simultaneously support and undermine the 'thing' itself. Therefore, what becomes interesting about a 'thing', is how its stability or permanence is constituted and sustained (Harvey, 1996a).

As a conceptual tool, Harvey's 'dialectics' resist the Cartesian separation and purification of opposites, such as extreme constructions of interpretivist and positivist paradigms (Harvey, 1996a). Much like a 'thing', opposing units of a binary system are related by virtue of the complex of processes and relations that constitute them, and which they internalise. Taking subjects or objects of sustainability as an example, dialectical enquiry maintains that they cannot be separated. Both are related through processes and relations that are co-constitutive. These processes and relations simultaneously support and undermine the stability of their separation. The heterogeneity that constitutes all things is a site for creative transformation through the generation of new knowledges, relations of power and identities (Harvey, 1996a). Everything from the transport systems of a city to global capitalism are stable only to the extent that the processes that produce them are able to mask the sources of their constant and ambivalent reproduction.

Conceptualising understanding

Denzin and Lincoln (2005) maintain that each practice of meaning-making brings the world into view and into physical form in a different way. The notion of understanding outlined by Bernstein gives focus to the dynamic interaction between the part and the whole as co-constructive participants in the ongoing constitution of meaning. This is why he claims it to be a dialectical process of holding "the most local detail and the

most global of global structure in such a way as to bring both into view simultaneously" (Bernstein, 1983, p. 133). Borrowing from the pragmatist Richard Rorty's terminology, Bernstein (1983, p. 167) claims that truth is "'hammered' out in the course of history".

Bernstein explores the practical dimension to our interpretations of the reality in which we participate. The telos of Bernstein's philosophy is to show that the concepts of objectivism and relativism that underpin the distinction between positivism and interpretivist paradigms, distort our being in the world and he claims that we need a new way of thinking about 'understanding'. Bernstein's conceptualization of understanding is based on contributions of the likes of Martin Heidegger, Hans-George Gadamer, Richard Rorty, Jurgen Habermas, Thomas Khun, Paul Feyerabend, and Hannah Arendt to name a few. Understanding is conceptualised by Bernstein as a moral practice. In developing a practical conception of understanding he relies on a type of reasoning called 'practical reason' that mediates between the universal and the particular (Bernstein, 1983, p. 146). Here theory is recursively grounded or co-constructed through its application in lived experience. This type of reasoning yields a type of ethical 'know how' situated in any given particular moment. It is a type of 'know how' that cannot be predetermined but is embodied through a constant weighing up and deliberation in particular situations. He contrasts this with 'technical knowledge' where means are not required to be weighed in every given moment to realise a given end. Furthermore, he contends that the ends of 'technical knowledge' are to produce something already determined whereas the ends in ethical 'know how' are concretised or realised only in deliberation of both means and ends. This gives ethical know how its practical dimension (Bernstein, 1983, pp. 109-169).

The task of understanding, as Bernstein (1983) describes it, is not about abstracting out our own prejudices and biases to understand the meaning of something or empathising by jumping into the mind of someone else to know what they mean. This type of understanding does not aim to locate meaning within an individual or somewhere out in the world but its realisation is through the 'happening' of understanding. Understanding here is taken as a dynamic interaction between the understanding subject and the object of understanding (Bernstein, 1983, pp. 112-124). To help outline this interaction he deploys a number of different versions of the 'hermeneutical circle', all which have the following theme: to understand something we bring with us our own subjective inner worlds with all our prejudices and bias to the task of interpretation. To identify absurdities in part of the thing we wish to understand we must try out alternative readings to test out what makes sense or not. While this can lead to interpretation of the whole thing we can only validate the adequacy of this interpretation by again returning to the thing and its parts. This toing and froing between part and whole captures the meaning of the 'hermeneutical circle' (Bernstein, 1983, pp. 131-137). Bernstein remarks that a positivist may object by saying that there should be some framework to determine the correctness of readings. He maintains that this objection is allied to the assumption that we must have a veritable ground or Archimedean point to settle the truth of such interpretations. In response, he forwards that the basics tenant of the hermeneutical circle is that our prejudices and bias cannot be bracketed from that which we would want to understand. Rather, they should open us towards the object of understanding and allow it to be heard. He maintains that our prejudices and biases are constitutive of our being; that is, our self-definitions influence what we come to know and thus any assertion of a neutral objective standpoint is a fallacy (Bernstein, 1983, pp. 131-137).

If we accept that there is no neutral objective standpoint the question still remains, how to break out of relativistic one? Again, Bernstein goes some way to answering this. He brings attention to the role of our 'horizons'. He first makes the claim that it is our changing horizons that influence what will be heard when someone with a different point of view speaks to us. He borrows the term horizon from Hans-George Gadamer to describe our situated fields of vision; that which can be seen from a particular vantage point. These horizons are taken to be finite and limited by our traditions and history, but yet open (Bernstein, 1983, pp. 143-149). Bernstein's intention here is to highlight a consciousness in motion. This motion affects a being's standpoint and hence the potential for future horizons that are different yet connected to past horizons. Bernstein claim's that when encountering people with a different horizon the task of understanding is to fuse horizons such that ours is enriched and enlarged by theirs. He maintains that it is through this fusion that we break out of relativism and risk our own prejudices and bias. In addition, he contends that through this fusion we come to an enriched understanding of ourselves. In other words to understand something 'other' we must relate it to our situation (Bernstein, 1983, pp. 143-149). The upshot of fusing horizons of difference is that the meanings for the things we direct understanding toward i.e. sustainability, can never be absolutely settled.

Understanding practice

The pragmatic turn of the 20th Century has given much attention to everyday experience in understanding the complexities that maintain or transform social phenomena (Colapietro, 2004; Engel et al., 2013; Fossen, 2013). Pragmatism can be referred to as a theory of truth that works rather than something that is an absolute claim or a representation of reality (Mautner, 2000b). This theory of truth is what Bernstein draws from in asserting that understanding is an ongoing negotiation

between the universal and particular (Bernstein, 1983). Sewell Jr (1992, p. 2) argues that attempting to understand social phenomena, such as the practice of sustainability, through a focus on structure reduces actors to "cleverly programmed automatons". Conversely Akram (2013) argues that a focus on agency assumes too much in terms of an actor's ability to be reflexive and intentional, and neglects the role of unconscious actions and habit. Shove et al. (2012) maintain that what is needed are ways of exploring the everyday experience of practice without prioritising human agency or treating it as an outcome of given structures. Drawing from the work of social theorist Anthony Giddens and his structuration theory, and from the work of cultural sociologist Andreas Reckwitz, Shove et al. (2012, p. 3) contend that

> activities are shaped and enabled by structures of rules and meaning, and these structures are, at the same time, reproduced in the flow of human action. This flow is neither the conscious, voluntary purpose of human actors, nor the determining force of given social structures.

Many scholars have highlighted how 'theories of practice' are useful in understanding the complexity of social phenomena (Evans et al., 2012a; Shove et al., 2012; Spurling et al., 2013; Strengers, 2010; Warde, 2014). Common to many different theories of practice is the notion of practice as more than just patterned ways of doing and saying. Practices emerge from a complex interaction of social and material factors. Further complexity is introduced if you consider that a given practice does not exist in isolation but within a bounded field of other practices (Shove et al., 2012). Shove et al. (2012) describe practice as routinised blocks and patterns of behaviour, constituted by interdependent relations between three elements: 'materials', 'competences' and 'meaning'. Here the element of 'materials' encompasses the objects and tangible expressions of practice or what Hodder (2003) calls 'material traces'. This would also

include humans and their bodies. ‘Competences’ comprises the knowhow, habits, and techniques of practice. ‘Meaning’ includes the symbolic realm, ideas, and aspirations. Shove et al. (2012) give focus to the spatial and temporal configurations of these elements as a way into understanding practice and in turn the complex constitution of social phenomena (Spurling et al., 2013). For Shove et al. (2012) the stability of ‘practice as entity’ (something that is tangible and can be talked about) results from the presence of links between its constitutive elements. Furthermore Shove et al. (2012) maintain that practice as entity is also in dialectical relation with ‘practice as performance’. That is, through the recursive relationship between the (witting and unwitting) performances of multiple actors, practices are stabilised or destabilised.

The conceptualisation of practice forwarded by Shove et al. (2012) provides insight into the ways in which the practice of sustainability can be understood, enacted, reproduced, transformed, and researched. First and foremost, the practice of sustainability cannot be reduced to the cause and effect models enshrined in the ‘ABC’ behaviour change paradigm in which individuals are seen as autonomous agents (Shove, 2010). Individuals carry practices not by themselves, but through the help of many (Shove et al., 2012). As a performance, the practice of sustainability is influenced by shared understandings and subjective interpretations (Evans et al., 2012a), and through the routine and habitual nature of practices themselves (Warde, 2014). Only when enough practitioners perform in a way as to change ‘meanings’, ‘materials’ and ‘competencies’, is transformation of that practice possible (Shove, 2010).

Understanding discourse as practice

Before moving on to outline the methods employed in this research project I outline one more conceptual implication of my methodological interest in dialectical constructivism. That is the conceptualisation of discourse as practice. What we say and what we do are often represented in modern dualism as being two separate things, yielding the common distinction between discourse and practice. Edley (2001) muddies the modernist distinction between discourse and practice with the hypothetical example of a thief stealing a car. He notes how discourses about cars as a desirable possession, as a necessity in modern society, and as a symbol of success all make the car vulnerable to being stolen in the first place. Thus, discourses about cars have the dual character of framing meaning and affecting action. In terms of the latter an example would be that the thief is sent to jail for their crime (Edley, 2001).

Discourses can also be considered as a practice in itself under the theory of practice presented by Shove et al. (2012). In the example just given, a range of different discourses in society frame the category of thief as immoral and harmful. The institutionalisation of these discourses link materials, e.g. legislative report's, judges, lawyer, victims, police and jails, with meanings given to the act of stealing and possession, with competences involved in legal proceedings. This example highlights that discourse and practice are not mutually exclusive and that indeed discourse can it itself be considered a practice.

Much like practices, discourses are also performed. For discourse analyst Maarten Hajer (2006, p. 67) discourse is defined as "an ensemble of ideas, concepts and categories through which meaning is given to social and physical phenomena, and which are produced and reproduced through an identifiable set of practices". This

definition brings attention to the performance associated with what is uttered and that structure our representations. These performances concern the norms and rules that become routinised in the formation of discourse. Hajer (2006) forwards three important discursive performances which he terms ‘discursive structures’; the use of ‘metaphors’, the use of ‘story lines’ in summarising complex narratives, and the formation of ‘discourse coalitions’, the outcomes of group story telling. The latter is similar to the notion of intertextuality, were intertextuality refers to the way meaning is stabilised across different texts (Wait, 2005). These performances move discourse clearly into the realm of practice.

Entering the field of research practice

In this section, I outline the purpose of research, methods, analytical framework and ethical considerations for investigating the context-specific ways the practice of sustainability is brought into being at the University of Tasmania.

Purpose of research

As educational institutions that aspire to critical enquiry, universities are particularly suited to the task of examining the root causes of unsustainability. As described in Chapter 1, the role of universities in leading EfS is recognised both nationally and internationally. In response to this increased focus on EfS, many universities within Australia are now allocating significant resources towards developing associated policies, strategies, and plans. While a number of studies have examined the uptake of sustainability and EfS within Australian universities (as outlined in Chapter 1) to date little research has drawn from a dialectical constructivist methodology in assessing how Australian universities are carrying out this institutional reform in the socio-material context of particular cases.

In line with my methodological approach of dialectical constructivism, I consider the practice of sustainability at the university to be variously contested and constructed rather than simply the practice of established truths. By focusing on how sustainability is brought into being I aim to develop an understanding of existing diversity within the practice of sustainability and of ways this practice can be made differently in the future. My secondary aim is to explore how these differences are implicated in modernist relations of social power. Hence in answering the research question my focus is on two important sub questions:

1. How is practice of sustainability contested?
2. How is the practice of sustainability constructed?

The primary research question and sub questions are inherently related to my own embodiment as a sustainability practitioner for many years across a diversity of institutions, from non-profit community organisations, local government and, since 2009, at the University of Tasmania, where I was Sustainability Manager from 2009-2011 and am currently a part-time Sustainability Officer (since 2011). At the University of Tasmania, I have been employed in the operational division responsible for buildings, campus grounds, resource use, waste management and transport infrastructure. As the University's sole Sustainability Manager, I had responsibility for implementing the University of Tasmania's *Environmental Management Plan 2009-2011 (UTAS, 2009c)*. Since then, I have played a key role in bringing sustainability into being at the university. Hence, the question that I have explored through this research has been important to developing my own understanding of how I have constituted sustainability and how I could constitute it differently in my own practice and in the emerging profession of 'university sustainability practitioner'.

Methods – explorative case study approach

The research design was centred on an explorative case study approach. Kyburz-Graber (2004) contend that the aim of a explorative case study is not just to describe the complexity of social situations (as sometime associated with the general term case study) but to understand these situations in relation to their specific context. Kyburz-Graber (2004) further contends that this type of case study is useful for answering questions regarding how meanings are socially constructed. Given my aim is to understand how sustainability is socially constructed, an explorative case study approach was considered consistent with the methodological position taken up through this research.

The University of Tasmania was selected as the site for case study research for both practical and for methodological reasons. As mentioned I am professionally involved in constituting sustainability at the University of Tasmania. While I could have studied another institution, my current work and family commitments would have made this difficult. However, I also believe that research, while contributing to scholarly knowledge, should also be a process of developing reflexive self-understanding. Examining my own practice, with all of its prejudices and bias, as part of the broader context of research, is in line with Bernstein's dialectical notion of understanding (Bernstein, 1983). This notion of understanding has been fundamental in shaping my methodological position. As noted by Flyvbjerg (2006), as a practitioner my practice is already shaped by case studies, although I have only become aware of this during the course of this research. I have realised that my experience with different cases continues to transform my context-independent knowledge, learned through my schooling and undergraduate science degree, into the practical knowledge I apply to my practice (Bernstein, 1983; Flyvbjerg, 2006). Hence, studying cases at the

University of Tasmania can be understood as an attempt by a practitioner to carry out research in ways that offers the potential to transform both the subject and object of understanding.

Case studies

Two cases of the practice of sustainability at University of Tasmania were examined: The Bike Hub project and the Source Community Wholefoods. These cases represent the diverse ways in which sustainability can be constituted at the university. The Bike Hub facility at the Sandy Bay campus was created in 2012 by operational managers to encourage cycling. The Bike Hub is a static physical construction built to provide services for cyclists. The Bike Hub's features include undercover bicycle (hereafter, bike) parking, bike maintenance tools and secure electric bike charging stations, powered by solar panels. University students were involved in the Bike Hub's design and construction (UTAS, 2012c). Source Community Wholefoods is a not-for-profit food co-operative, also located at the Sandy Bay Campus, created by University of Tasmania students and officially opened in 2010. It is a project mainly run by student volunteers and provides a meeting space on campus for the university community and the wider community to engage in sustainable food production and sourcing. Features of the project include a productive food garden, and a retail store and cafe selling organic and locally sourced produce (Source, 2015a).

Each case represents only a small fraction of the endeavours that could be construed as constituting sustainability at the University of Tasmania. Flyvbjerg (2006) maintains that selecting cases that are extreme in their constitution can reveal rich detail of basic social processes operating within social phenomena. The differences between the two cases chosen was considered sufficient to explore a variety of ways sustainability is constituted within a university. These differences include different

roles for senior managers, middle managers, academics, students and community members. Another notable difference is that while the Bike Hub has high visibility in winning the university a number of sustainability awards (UTAS, 2012b; 2012c, 2012d, 2013b, 2015d). On the other hand Source Community Wholefoods has featured only sporadically in university marketing and media around sustainability.

The two cases under investigation were conceptualised as 'nodes of practice'. The term 'node' is used to underscore the relationship of practice to a particular place. Drawing from the definition of 'node' by Oxford British and World English Dictionary online ('Node,' 2016) and the theory of practice offered by Shove et al. (2012), I use the term 'nodes of practice' to define a place where many different practices intersect and stabilise as an identifiable set of practices. That is, each 'node of practice' exists as bounded field of many different practices.

Data collection

Understanding the lived experience of practice requires methods that can uncover the complexity underlying mundane familiarity (Bradshaw & Stratford, 2005). Interviews represent a method which can access the complexity of the lived world of meaning-making (Dunn, 2005). As such, interviews with university staff, students, and external community members formed the primary data collection method. Interviews were carried out between May and August, 2014. Prior to the interview process proper, I recorded pilot interviews with people not involved in the study (PhD candidates within the School of Land and Food, University of Tasmania) to develop my interviewing skills and refine my questioning. Based on the pilot interviews, I decided to adopt a semi-structured interview style allowing participants to direct the discussion as much as possible. I found this to be better suited to eliciting both the lived experience as well as descriptive accounts of practice. Questions were adapted depending on the specific

role of the participant within each case. Participants were asked questions that aimed to reveal their experiences, underlying assumptions, beliefs, values, and attitudes relevant to how they contest and construct the practices of each case (Appendix A). Specifically, participants were asked to reflect on their role at the university and their involvement in each of the cases.

Interviews were conducted at a time and place convenient to participants. With permission of participants, interviews were audio-recorded so that the researcher could engage freely with participants during interviews and to enable accurate transcripts. I also documented my immediate perceptions of each interview through a research diary. To ensure that I remained as close to the data as possible I transcribed interviews myself. To insure accuracy in generating transcripts I provided transcripts to participants for review.

Interview data was contextualised through document review, and participant observation. The purpose of including this data was to further develop a complex understanding of the socio-material context of each of the cases. Document review provided another source of data on how sustainability is constituted from the perspective of university senior management. Documents reviewed included: *UTAS Environmental Management Plan 2009-2011, UTAS Governance Level Principle - GLP9, UTAS Sustainable Transport Strategy 2012-2016, UTAS Sustainability Policy* (2015), and UTAS media releases and websites about each of the cases. Reviewed were also institutional documents around university values and strategic aims such as *UTAS Open to Talent Strategic Plan 2012 - Onwards, UTAS 2016-2020 Strategic Plan for Learning and Teaching,* and *UTAS Statement of Values*. Participant observation involved visiting each of the cases once per week over the period May 2014 - August 2014 and observing the different interactions among people and their material

contexts. Participant observation is a useful tool in understanding the context through which people experience the world. It involves the researcher immersing themselves within the context they wish to understand. The nature of this immersion can vary from the role of the researcher as an observant outsider through to the role of the researcher as a full participant member of the studied community (Kearns, 2005). In this study, participant observation fell somewhere in between stances of the 'outsider' and the 'insider' depending on the case. In relation to Source, observations were made during the course of eating and ordering lunch at the Source Café and walking past on several mornings and as such observations were recorded after each site visit rather than during. In relation to the Bike Hub, observations were made and recorded during morning site visits. All observations were recorded in the researcher's field diary

Participant selection

Participants were selected using purposive sampling. This ensured representation from the range of actors involved in consisting sustainability at the University of Tasmania. Participants were primarily approached via third parties. Third parties were used for the broad scale distribution of invitations to potential participants. All potential participants were asked to direct queries and questions to the researcher and not to third parties. Support for the project, and assistance in recruiting potential participants for each of the cases was provided by the Sustainability Manager, University of Tasmania (Appendix B) and by the Board Members of the Source Community Wholefoods Project, Sandy Bay (Appendix C). Additional potential participants were recruited directly using publicly available UTAS emails (Appendix D). The snowball technique was used to recruit further participants through the social networks centred on each of the cases. This involved asking those already interviewed to pass the information about the study on to others.

Participants were identified as different actors in one or both of the two cases. 'Actors' were defined as anyone who has affected or who can affect the way sustainability is constituted within a case. The range of actors represented in the sample was partial, reflecting the difficulty encountered in recruiting some participants. Representatives from the University of Tasmania media office and students involved in research and design of the Bike Hub are examples of actors not represented. A possible explanation may be that these actors could not relate the aims of the study to their role in constituting sustainability within the university.

Respondents to the initial call for research participants were provided with an Information Sheet (Attachment E) explaining the project and its aims and how the confidentiality and anonymity of participants would be protected. Each potential participant was asked to sign and return a Consent Form (Appendix F) if they chose to be involved in the research. An interview schedule, (Appendix A) was provided to participants before interviews.

The sample comprised 20 interviews, with an average interview duration of 1hr. Table 3.1 lists the interview participants and the nature of their involvement in the case studies. Many participants were actors in both cases.

Table 3.1: Participant characteristics

Participant	**Role within UTAS**	**Involvement in the Bike Hub**	**Involvement in Source**
1	Student	Cyclist	Active member
2	Professional staff	CSD operational support	N/A
3	Student	N/A	Active member
4	Professional staff	N/A	N/A

5	Academic staff	Cyclist/AOSIP	Source user
6	Professional staff	CSD operational manager	CSD operational manager
7	N/A	N/A	Community active member
8	Professional staff	Cyclist/Bike Hub user	User
9	Professional staff/ Senior Management Team	N/A	N/A
10	Professional staff	CSD operational support	N/A
11	Professional staff	CSD operational manager	CSD operational manager
12	Professional staff	CSD operational manager	CSD operational manager
13	Professional staff	CSD operational support	N/A
14	Academic staff	AOSIP	N/A
15	Student	Cyclist/Bike Hub user	N/A
16	Professional staff	N/A	Source user
17	N/A	N/A	Community active member
18	Academic staff	Cyclist	Active member
19	Academic staff/ Vice-Chancellor's Executive	N/A	Source user
20	N/A	N/A	Community active member

NOTE:

- 'Academic staff' denotes participants who held academic positions at the university.
- 'Professional staff' denotes participants who have official roles as staff members within the university's administrative sections, such a human-resources, campus operations, finance, information technology etc.
- 'Senior Management Team' (SMT) denotes participants that were part of the University's decision making and performance management body.
- 'Vice-Chancellor's Executive' denotes participants that were part of the University's collegial forum, comprised of senior academic and professional leaders, for the discussion of emerging strategic issues.
- 'CSD operational support' denotes participants that were 'professional staff' of the university's Commercial Services and Development Section and which provide operational support for campus operations and built environment.

- ‘CSD operational manager’ denotes participants that were ‘professional staff’ of the university’s Commercial Services and Development Section and which have managerial responsibilities for campus operations and built environment.
- ‘AOSIP’ denotes participants that were directly involved in the university’s Academic Operations Sustainability Integration Program. This program is now termed Sustainability Integration Program for Students (SIPS) and aims to bridge greening of campus operations with academic goals around action learning.
- ‘Bike Hub user’ denotes participants that use the Bike Hub to park their bike.
- ‘Cyclist’ denotes participants who regularly cycle to the university campus.
- The category of “Active member” denotes participants who were actively involved in how Source is run through volunteering their time and were differentiated from people who may be members but primarily just use Source to eat lunch or buy produce. “Community active member’ denotes that this ‘active member’ was not a student or staff member of UTAS.
- ‘Source user’ denotes participants who use Source to eat lunch or buy produce but were not an ‘Active member’

Thematic analysis

Thematic analysis offers an approach to interpreting qualitative data across a range of methodological positions (Braun & Clarke, 2006; Ryan & Bernard, 2003). Braun and Clarke (2006) maintain that thematic analysis can provide complex accounts of research data at the same time as identifying patterns/themes. Given these advantages, thematic analysis was chosen as suitable framework to analyse interviews transcripts.

I analysed the potential for diverse ways of constituting sustainability by accessing the lived experience of participants to each case. It is worth mentioning upfront that I could have focused on a thematic analysis of institutional documents surrounding sustainability at the University of Tasmania. However, I believe this would have privileged what is said over what is done. Thematic analysis surrounding concrete cases of the lived experience of practice offered a way to move away from a focus on what is said in the general to how sustainability is made in the particular. Interview transcripts generated through this research were taken to be full of concepts and ideas relating to the contestation and construction of the practice of sustainability.

Coding strategy

Themes can be identified through an inductive approach where data is open coded or through a deductive approach where data is coded using a theoretical framework (Braun & Clarke, 2006; Ryan & Bernard, 2003). In keeping with my dialectical constructivist methodology, I employed both strategies in identifying themes. Coding was used to discern patterns of broader implication in relation to the theory and practice of sustainability (Braun & Clarke, 2006).

The inductive strategy involved documenting reflections immediately after interviews and again after listening to audio of interviews. These reflections were documented in the researcher's field diary and where carried out before all theory had been reviewed. Next, I personally transcribed each interview. These transcripts were then open coded using NVIVO (See Table 3.2). This inductive strategy was used to get as close to the data as possible without predetermining interpretations.

Table 3.2: List of open codes generated from interview transcripts

Infrastructure	Meaning	Knowledge
Location	Values	Skills
Barriers	Belief	Experience
Policy	Utility	Learning
Norms	Community	Habit
Technology	Networks	Reasoning
Space	Purpose	Emotion
Products	Benefit	Expert
Actions	Business	Passion
Behaviour	Risk	Decision
Identity	Connection	Role
Difference/contrast	Symbolic	
Change	Convenience	
Communication	Needs	

Success	Reputation	
Visibility	Operational	

The deductive strategy involved using the practice framework of Shove et al. (2012) as a heuristic to guide thematic analysis and to keep a focus on embodied practice. As in Chapter 2, I use the term embodiment to describe the socio-material complexes through which our constructions are made (Clarke, 2005b; Holt, 2008). In carrying out this phase of coding I reviewed transcripts in their entirety. Out of 20 interviews a total of 179 and 270 extracts for the Bike Hub and Source, respectively, were selected for detailed thematic analysis in terms of evidence of different meaning, materials and competences as per the elemental framework put forward by Shove et al. (2012). These extracts where then assigned preliminary theme categories (see Table 3.3).

Table 3.3: List of preliminary themes

Source (270 extracts analysed)	**Bike Hub (179 extracts analysed)**
Countercultural organisation	Superficial sustainability project
Human scale project	Facility that does not meet the needs of all cyclists
Living project	Infrastructure project providing for the needs of cyclist
Place for experiential education	Project lacking a community
Place of passion	Project supported by the university community
Place on campus to buy produce, products and lunch	Project that needs justification
Place to express values	Project through which people express their values
Place which nurtures human skills	Project which helps reduce the barrier of cycling
Project lacking visibility	Project which promotes sustainable transport and healthy life style

Project which contributes to a healthy lifestyle	Project with high visibility
Refuge	Real-life sustainability learning project
Student project	Reputation enhancer for the university
Benefit to the university	Site to access the university cycling community
Business	Site to build skills of cyclists
Community hub	Site to promote sustainability
Co-operative	Static project
Student project	Top down staff driven project

The last step in data analysis involved reinterpreting the outcomes of both the inductive and deductive strategies used. Preliminary themes, open codes and reflections documented in the researcher's field diary were reinterpreted to identify practices and associated themes that were central to the constituting of sustainability in each case.

Ethical considerations

The UTAS Tasmania Social Sciences Human Research Ethics Committee granted ethical approval for this research (Project number: H0013699) in December 2013. Research is value-laden, blurring the distinction between how research is done and what is found (Law, 2004b) or, as an interpretivist would say, what is constructed. That is, all research is situated within existing power relations (Kong et al., 2002; Mansvelt & Berg, 2010). The use of research as a tool of European imperialism provides a troubling example. Denzin and Lincoln (2005) contend that in European conquests, intruding white-skinned colonialists conducted research on dark-skinned natives to subjugate the researched. Kong et al. (2002) further emphasise the political nature of research by providing a historical account of interviewing gay communities across the 20th Century. In the beginning of this period the interviewer remained an authoritative outsider preoccupied with uncovering foundational knowledge about gay

identities (Kong et al., 2002). Interviews thus served as means of diagnosis and marginalisation. Kong et al. (2002) maintain that post 1960 the notion of plural truths combined with the rise of gay and lesbian movements led to interviews becoming a site for political struggles. Kong et al. (2002) contend that this trend has continued into the present to the point where interviewing is now commonly considered within qualitative research as form of moral and political intervention (Kong et al., 2002).

Social norms, values, subjective expectations, and power relations shape research. Research therefore requires a high degree of responsibility in its conduct. Dowling (2010) contends that critical reflexivity is a means to identify ethical dilemmas and resolve them when they eventuate. This is made possible only by critically reflecting on the commitments of both researcher and participant (Dowling, 2010). Critical reflection can help a researcher do justice to the nature of research, its findings and those entities variously positioned within it.

The researcher's positionality

My relationship with the University of Tasmania brings into view an important political dimension of this research project. Hence, it is particularly important in what follows that my negotiation of this dimension is outlined. My professional employment at the University of Tasmania meant that I had existing relationships with several key participants to the study. In the case of some participants these relationships were personal as well as professional. While this was beneficial in terms of recruiting participants it could also have resulted in the research being uncritical and autobiographically partial. To reduce the potential for this narrowing, I made sure that in carrying out interviews participants understood the criteria for selection, the scope of the enquiry, and my role as a researcher rather than an employee of the university. To further delineate this role, prior to commencing research I resigned from

my position as Sustainability Manager and during the conducting of interviews I ceased all professional engagement with the university. As an added measure, I maintained a field diary to record daily reflections on my positionality to the research. My supervisors also provided feedback through the process of drafting chapters noting where they thought my professional experience was influencing my interpretations. These measures ensured that critical reflection was fundamental to the research process.

Bennett and Elman (2006) note that while case studies offer the opportunity for researchers to get close to what they are attempting to understand, it also means the potential for findings to simply confirm the pre-given interpretations of the researcher. Their concerns focus on the validity of case study research. I maintain that the term validity is suited to research which seeks foundational arguments for truth (Dunn, 2005; Mansvelt & Berg, 2005). Guided by a methodology that resists such arguments, and which places understanding as basis for research practice, I have addressed bias not through validity but through trustworthiness. My concern has been more about consistency of methodology and methods than an argumentative framework that results in foundational claims (Dunn, 2005). I have addressed trustworthiness by being explicit and self-critical about my positionality through the research process, transparent in outlining the rationale and process for methodology and methods, receptive to feedback from supervisors and outlining a theoretical basis for the research design and analysis.

Interview participants

The ability of participants to shape the research contact was also another important ethical consideration. Participants were given the opportunity to choose the location for interviews. As a result, interviews encompassed a range of settings from homes,

work kitchens, offices, to meeting rooms and work place corridors. In addition, prior to interviewing I provided participants with a rationale as well as protocol for protecting confidentiality and anonymity. After interviews I then gave participants the opportunity to review transcripts and remove their contributions if desired. These measures helped ensure that participants felt empowered in sharing their experiences and perspectives.

Anonymity of participant contributions was maintained throughout the study and in the final write up. To minimise the risk of accidentally disclosing participant identities, rather than just interview sustainability staff within the university (a small and identifiable cohort), participant selection included a range of actors. This was also taken as important in fully reflecting the diversity and heterogeneity of meanings involved in constituting sustainability at the university. In the private database of interview recordings, numerical codes were used to identify participants with transcript content. Original names and their respective numerical codes were kept in a separate database and did not contain any transcript content. In reporting of the research findings participants are referred to through pseudonyms.

Protecting participants from distress was another important ethical consideration. Psychological distress such as feeling anger, guilt or distress by being involved in interviews was identified as a potential risk to participants. It was therefore important that participants were empowered during interviews. To this end, a semi-structured approach was adopted. Careful attention was placed on drafting an interview framework that moved from descriptive questions to more challenging analytical questions so as to ease participants into interviews. Interview participants were also given the opportunity to ask questions and lead the interviews. To further empower participants at the beginning of all interviews, attention was brought to the fact that at

any stage the interview could be stopped by the participant. Consent is borne from the ethical principle of autonomy and allowing one to act freely under one's own will. In adhering to this principle, it was ensured that informants were not coerced into participating and their involvement was voluntary. In addition, it was ensured that consent was formalised via written means, and the aims of the research and any consequences of participation were clearly communicated.

Effects of research on university reputation

The effects of research on the reputation of University of Tasmania was also considered. The research focused on understanding how sustainability is brought into being across different contexts within a university. In employing a dialectical constructivist methodology the aim was not to generalise about a particular institution but to use the University of Tasmania as case site to interpret the complex and multi-nature of practices that are entangled in constituting sustainability within universities. To further mitigate any potential harm to the University of Tasmania the theory, methodology and methods supporting the research findings were carefully detailed. By carefully detailing the journey of research, it is hoped that the reasoning for findings is itself justified and knowledge claims trustworthy. I now turn my attention to these findings.

Chapter 4: The Bike Hub: case study 1

UTAS' official sustainability journey

Established in 1890, the University of Tasmania (UTAS) is the fourth oldest Australian university. The only university in the island state of Tasmania, it has three major campuses located in the cities of Hobart, Launceston and Burnie. It also has one small campus in Sydney and offers offshore programs in Asia (UA, 2015). UTAS provides undergraduate and postgraduate degrees to more than 29,000 local, national and international students and provides employment to 1,280 academic and 1,490 professional staff (UTAS, 2015a).

Distinguished Professor Jamie Kirkpatrick, a staff member of the university since 1972, points out that UTAS has fomented much student and academic activism for sustainability, from activist campaigns in Tasmania against forestry and the hydroelectric dams, to the setting up of the first green political party in the world in 1972 (Kirkpatrick, 2015). UTAS has for several decades researched and provided education around sustainability themes, as exemplified by the establishment of a Centre for Environmental Studies in 1975; an interdisciplinary centre focused on applying knowledge and developing new knowledge in helping to understand the many dimensions of unsustainability (Davison, 2013; UTAS, 2006). The Centre for Environmental Studies was merged into the university's School of Geography and Environmental Studies in 1987 (Kirkpatrick, 2015). Since then, sustainability research and education has been increasingly taken up by a range of specialist disciplines, with the Centre for Environmental Studies being disbanded in the early years of this Century (Davison, 2013).

The increasing emphasis given to the notion of a 'sustainable university' by the international community, the Australian government in the form of the *Environmental Education for a Sustainable Future: National Action Plan (*2000), organisations such as, Australian Learning and Teaching Council, Universities Australia, Australasian Campuses Towards Sustainability Incorporated Association (ACTS) and its precursor the Australian University Environmental Manager Network, Tertiary Education Facilities Management Association and early movers and shakers in university sustainable practice such as the Australian National University & Macquarie University (Ferreira & Tilbury, 2012; Noonan & Thomas, 2004; TEFMA, 2004; Tilbury et al., 2005; UA, 2006; UNESCO, 2002), resulted in senior managers at UTAS formalising an institutional commitment to sustainability in the period 2005-2009. This commitment involved adopting two Governance Level Principles relating to environmental management and the environmental sustainability of the university's built environment, and an *Environmental Management Plan 2009-2011 (UTAS, 2009b; 2009c).* To operationalise this institution-wide commitment an Environment Management Group (EMG) was established in 2006 comprised of academic and professional staff volunteers from across the university. The aim of the EMG was to progress environmental management of university operations. This group then successfully advocated the case for a full-time Sustainability Manager and a small operational budget in 2009. This resourcing commitment was positioned within the University's Asset Management Section (AMS); the section responsible for campus operations and built environment within the university. A university-wide restructure in 2013-2014 saw the functions of AMS absorbed into a Commercial Services and Development section (CSD) (Davison, 2013; Salter et al., 2012; Singh & Peterson, 2015).

Prior to 2009, the predominant institutional concept of sustainability at UTAS was the greening of campus operations. As mentioned in Chapter 1, this emphasis reflects the national and international pattern of universities translating the discourse of sustainability into a narrow technical agenda centring on resource use, waste production, and infrastructure design and function (Tilbury, 2011). Since 2009 the institutional approach to sustainability at UTAS has broadened into a whole-of-university approach encompassing a mixture of top-down and bottom-up components (McMillin & Dyball, 2009). Top-down components include, for example, the signing of the *Talloires Declaration* (1990) on 21 October 2009. As mentioned in Chapter 1 the *Talloires Declaration* (1990) commits universities to embedding EfS within all of its teaching, research, operations and outreach activities. This commitment has been further reinforced through the approval of the *UTAS Sustainability Policy* and *UTAS Sustainability Mission Statement* in 2015. Furthermore, in 2012 the UTAS Environmental Management Group was renamed as the UTAS Sustainability Committee, with membership broadened to represent the range of academic and administrative functions of the university. This committee now reports directly to UTAS' Senior Management Team (SMT) and is chaired by the Deputy Vice-Chancellor (Students and Education).

An example of a bottom-up component in the emerging whole-of-university approach to EfS at UTAS is the creation of the *Academic Operations Sustainability Integration Program* (AOSIP) in 2011. This program was conceived and advocated by academic and operational staff to bridge the greening of campus operations with academic goals for action-based and authentic learning. In effect, this program devised accredited learning opportunities for students, such as unit-based assessment, in place of operational work previously done by private sub-contractors. Tasks created for

students included designing infrastructure and preparing vegetation management plans. After providing necessary resources to teaching staff, this program helped to save the university's operational budget considerable cost, while helping to empower students to have a say in how their campus is run. This program is now called the Sustainability Integration Program for Students (SIPS) and by 2016 had encompassed 76 projects across all UTAS campuses and had involved 975 students, 32 staff, and 12 discipline areas (Peterson, 2016).

Another example a bottom-up component is the UTAS EfS Communities of Practice (CoP) established by academics from the Faculties of Science, Health, Arts and Education in September 2011, with involvement from the CSD Sustainability Manager. The UTAS EfS CoP represents an advocacy and interdisciplinary group, presently about 60 people strong, comprising UTAS academic and operations staff and non-university community members who have voluntarily taken on the responsibility of embedding EfS within the university (Davison, 2013; Salter et al., 2012; Singh & Peterson, 2015; 2014b; UTAS, 2015d, 2015e, 2015f).

UTAS' whole-of-university approach to sustainability has led to two UTAS Vice Chancellor Awards in 2013, national recognition through numerous ACTS sustainability awards between 2012-2016 and a Commonwealth Office of Teaching and Learning award in 2015 (UTAS, 2017c). A notable feature of UTAS' official sustainability journey is that sustainability has increasingly become a collective project that includes interests and endeavours of operational staff, academics, students and non-university community members. This is a result of different drivers which include shifting values and expectations of students, staff, employers, government and citizens, and related issues of ranking, reputation and competitiveness in the global university market. In response UTAS has embedded sustainability into its policy

discourse, if not yet in its policy action. For example, the inclusion of Environment, Resources & Sustainability is now one of five major themes within the university's *Strategic Research Plan* (2014-2018) (UTAS, 2014b). UTAS' current *Open to Talent Strategic Plan 2012* also gives specific focus to sustainability. This plan states that

> future planning, design and management of our facilities will be guided by a vision of sustainability seeking to reduce environmental impacts, achieve economic efficiency, demonstrate social responsibility, and enhance student experience. The implementation of innovative design and technology will complement an organisational culture which promotes sustainable practices through all of our endeavours (UTAS, 2012f, p. 11).

As mentioned in Chapter 1, a significant feature of EfS in the context of universities is to create both knowledge and resources for cultural and political transformation (McMillin & Dyball, 2009; Tilbury, 1995). A number of UTAS' policy instruments embody this goal. The vison for the *UTAS 2016-2020 Strategic Plan for Learning and Teaching* emphasises interdisciplinary knowledge, action learning and the capacity of its graduates "to participate as socially responsible citizens" in responding to the challenges of the 21st Century (UTAS, 2016c, p. 4). Supporting this vision is the *UTAS Statement of Values* which further reinforces the notion of stewardship of learning and knowledge (UTAS, 2015g). Drafted in 2015 the *UTAS Statement of Values* places emphasis on continual learning; fostering care and connection; the university's role as an agent of change and transformation; the creative potential of collaboration; providing an inclusive environment; and questioning and critical reflection (UTAS, 2015g). An example of how these values have been translated into academic practice is the requirement since 2015 for students to complete two breadth units as part of graduate degrees within the common degree structure. These breadth units aim to

deepen student understanding of the socio-material complexity of human challenges through exposure to different disciplines outside of specialist degree structures (UTAS, 2016a). Another more recent example includes the new Vice Chancellor's Leadership Program offering students the opportunity to gain credit and citations in developing practical experience through volunteering and paid and unpaid internships within the University and other external organisations (UTAS, 2017d).

The Bike Hub – context

> *There are no moving parts, the structure is rigid and firm, clean, clutter free and orderly, made from machined products of wood and steel. Another gust of wind moves through and nothing still moves. The only thing that moves is a lonely tree adjacent to the structure, which seems to be shading the solar panel on its roof. This tree is mulched in gravel. There are also a few shrubs mulched in gravel that form part of landscaped design that seems to include car parks and road intersections…asking a passer-by what they think this structure is for? They straight away say "For parking bikes". They then pause again noticing the recharge logo and solar panel and after few seconds they exclaim, "Oh it must be for charging electric bikes!* (Researcher's field diary, observations of the Bike Hub when walking past on the morning of 17 January 2015)

Figure 4.1: The Bike Hub, UTAS Sandy Bay Campus (Photo Author: Kamal Singh)

As one of the largest employers in Tasmania, UTAS contributes significantly towards transport activity within Tasmania. Much of this transport is dominated by car (automobile) use, creating pressure on state-wide road networks, contributing to UTAS' and Tasmania's greenhouse gas emissions profile and is proving costly in terms of providing infrastructure for car parking. With increasing fuel price's there are also concerns around the equity of access to university campuses via vehicle transport. The *UTAS Sustainable Transport Strategy 2012-2016* (STS) was developed through a project led by the AMS to address these challenges. This plan offers increasing healthy and sustainable transport options, reducing single occupancy vehicle use, and reducing carbon emission from transport practices as three main areas for improving the sustainability of transport practices at UTAS. This plan identifies enhancing cycling infrastructure, and promoting and supporting a cycling culture as important elements that cut across these objectives (UTAS, 2012e).

One of the first initiatives to flow from the STS was the construction of the Bike Hub, a purpose-built bike parking facility (see Figure 4.1). The Bike Hub is located on the periphery of UTAS Sandy Bay Campus between Dobson Road and Alexander St (see Figure 4.2). Its features include solar panels, bike maintenance station, dedicated electric bike lockers (total of 6), and undercover bike parking for upwards of 56 bikes. The Bike Hub was officially launched 10 October 2012 by UTAS Vice Chancellor, Professor Peter Rathjen and Tasmanian Minister for Sustainable Transport, Nick McKim (UTAS, 2012b, 2012c). In an official UTAS media release prepared for the launch, the Bike Hub is cited as making it easier than ever for students and staff to cycle to the Sandy Bay Campus (UTAS, 2012c).

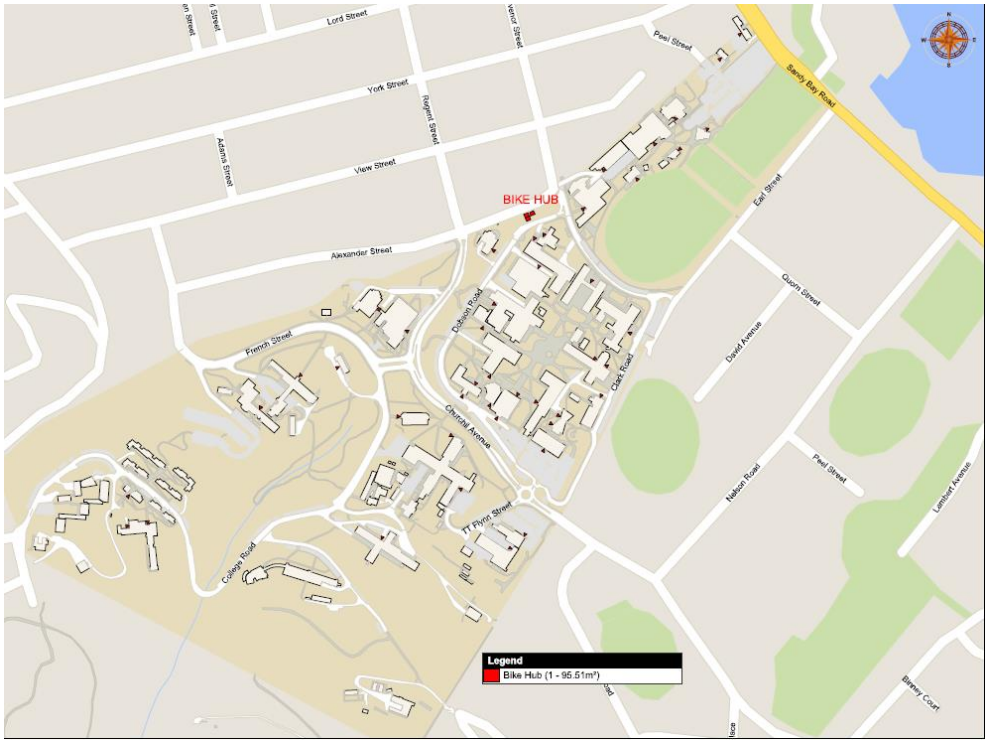

Figure 4.2: Location of Bike Hub at UTAS Sandy Bay Campus

The Bike Hub is a highly visible piece of campus infrastructure, being situated on a major cycling route into campus (UTAS, 2012b). Costing around $110,000 (Peterson, 2017), the Bike Hub was funded out of a combination of UTAS' operational budget, the Tasmanian State Government Cycling Infrastructure Grant ($10,000), and a Federal Government Climate Change Grant ($5,000), as well as in-kind support from the Hobart City Council in the way of road curbside alterations (UTAS, 2012b, 2012c).

The Bike Hub was officially commissioned by UTAS' Commercial Services and Development Section (CSD) (as mentioned this section includes university functions previously performed by AMS). However, its design and evidence for its demand was informed by the AOSIP (UTAS, 2015b, 2017b). The first stage in the process to develop the Bike Hub as an AOSIP project involved Geography and Environmental Studies Masters students carrying out a survey to identify cycling infrastructure demand and requirements and specifications for a bike parking facility at the Sandy Bay campus. Based on survey data, the next stage involved the CSD Sustainability Manager developing a design brief for students within the School of Architecture and Design (SAD). Supported by the Launceston Assistance and Research Centre, students from SAD then designed, manufactured and built the Bike Hub (UTAS, 2012b). Journalism students together with Geography students were involved in preparing media for its launch. In this media release, Vice Chancellor Peter Rathjen highlighted the important role of students in developing the Bike Hub, proclaiming that "[t]his facility is a product of our students' dedication and passion for environmental sustainability" (UTAS, 2012c, p. 1).

The Bike Hub has been extremely important in giving national exposure to UTAS' commitment to sustainable transport and EfS. In 2013, UTAS received national recognition for its bike infrastructure developments at the Sandy Bay Campus through

the Australian Bicycling Achievement Awards. In receiving this award, both the innovative design features of the Bike Hub, and the novel (but impressively successful) student process through which it was created, were recognised (UTAS, 2013b). The Bike Hub has also been a major element in many of the ACTS sustainability awards received by UTAS, the 2013 UTAS Vice Chancellor Award for Programs that Enhance Learning, and the Commonwealth Office of Teaching and Learning award in 2015 (UTAS, 2012d, 2015d). The success of the Bike Hub at the Sandy Bay Campus has resulted in the support for, and construction of, more Bike Hubs across UTAS campuses (UTAS, 2015b; 2016b).

Practices constituting the Bike Hub

My case study of the Bike Hub centred on interviews with professional staff, academic staff and students involved in the creation and use of this facility and/or who held views about its purpose. Table 4.1 lists participants involved in the case study. Participants are listed using pseudonyms and general descriptions of their role within the Bike Hub. Where a participant could be indirectly identified from a particular interview excerpt their voice is categorised as ‘anonymous’.

Appendix G shows the results of analysing interview transcripts through a conceptual division of the practice of sustainability into materials, meanings, and competences (Shove et al., 2012). As mentioned in Chapter 3, this methodological approach was found to be helpful in keeping a focus on how practices are embodied when thematically analysing interviews. Three major practices of sustainability were identified as central to the creation and operation of the Bike Hub:

Practice 1: Creating a symbol of healthy living;

Practice 2: Creating legitimacy within the university;

Practice 3: Creating real-life learning for sustainability

In what follows, I examine in detail the themes relevant to each of these practices.

Table 4.1: Participants involved in discursively performing the Bike Hub

Pseudonym	**Role within UTAS**	**Characteristics related to Bike Hub**
Eric	Student	Cyclist
Sara	Professional staff	CSD operational support
Ruth	Professional staff	N/A
Laura	Academic staff	Cyclist/AOSIP
Joshua	Professional staff	CSD operational manager
Patrick	Professional staff	Cyclist/user
Chris	Professional staff/ Senior Management Team (SMT)	N/A
Jennifer	Professional staff	CSD operational support
John	Professional staff	CSD operational manager
Kevin	Professional staff	CSD operational manager
Greta	Professional staff	CSD operational support
Kathy	Academic staff	AOSIP
Carolyn	Student	Cyclist/user
Liz	Professional staff	N/A
Bruce	Academic staff/ Vice-Chancellor's Executive	N/A
Karl	Academic staff	Cyclist

NOTE:

- 'Academic staff' denotes participants who held academic positions at the university.
- 'Professional staff' denotes participants who have official roles as staff members within the university's administrative sections, such a human-resources, campus operations, finance, information technology etc.
- 'Senior Management Team' (SMT) denotes participants that were part of the University's decision making and performance management body.
- 'Vice-Chancellor's Executive' denotes participants that were part of the University's collegial forum, comprised of senior academic and professional leaders, for the discussion of emerging strategic issues.

- ‘CSD operational support’ denotes participants that were ‘professional staff’ of the university’s Commercial Services and Development Section and which provide operational support for campus operations and built environment.
- ‘CSD operational manager’ denotes participants that were ‘professional staff’ of the university’s Commercial Services and Development Section and which have managerial responsibilities for campus operations and built environment.
- ‘AOSIP’ denotes participants that were directly involved in the university’s Academic Operations Sustainability Integration Program. This program is now termed Sustainability Integration Program for Students (SIPS) and aims to bridge greening of campus operations with academic goals around action learning.
- ‘User’ denotes participants that use the Bike Hub to park their bike.
- ‘Cyclist’ denotes participants who regularly cycle to the university campus.

Practice 1: Creating a symbol of healthy living

Participants generally understood the Bike Hub as an attempt to create sustainability as an appealing and convenient choice through a symbol of healthy living. Two major themes were found to be relevant to this practice: ‘appealing to a wide audience’ and ‘making sustainability more convenient’.

Theme 1: Appealing to a wide audience

Participants explained that the aim of the Bike Hub is to encourage more people to cycle to work or study, and something which is good for their health: “Clearly, it was to promote a healthier lifestyle, have more people ride their bikes to the university and have somewhere safe and secure to house them while they are here” (Bruce/academic staff/Vice Chancellor’s Executive). Carolyn (student/cyclist/user) believed that a major aim of the Bike Hub was “in a very prominent way to kind of make bicycles more visible”. She noted how “it looks like there is [sic] loads of people with bicycles getting to and from the uni” (Carolyn/student/cyclist/user). Patrick (professional staff/cyclist/user) referred to this as a “good sign” that the Bike Hub was working with respect to the goals of making cycling easier. Sara (CSD operational support) linked the Bike Hub’s visibility to how it provokes thinking, when she suggested that because

of the Bike Hub people who are "driving past they [are] probably thinking to themselves, yeah I should ride my bike one of these days". The Bike Hub's role in making cycling more noticeably present was not perceived by Carolyn and Sara as incidental, but rather as part of an overall aim by operational managers to normalise cycling by making it more visible on campus.

The Bike Hub makes visible a link between cycling and its potential effects. Karl (academic staff/cyclist) contended that the Bike Hub is not only a "functional piece of infrastructure; it's a symbolic piece of infrastructure as well"**.** He hoped that the Bike Hub would help "people move away from cars and fossil fuel based transport" (Karl/academic staff/cyclist)**.** Karl's account draws attention to what the Bike Hub symbolises. Many participants who cycle emphasised that there is a dominant culture within society which favours car use. These participants claimed that the university had a moral duty to provide a healthy and sustainable transport alternative. Carolyn explained that

> it is the sort of thing that we should be doing as a culture, promoting alternatives and encouraging students and staff to have a healthier and more sustainable life style … And bicycling is [a] very healthy activity and sustainable at the same time. It gets people exercising so, yeah, very important (student/cyclist/user).

Carolyn along with many other participants perceived the Bike Hub as symbolising cycling as a healthy and sustainable alternative to car use. For example, Carolyn's (student/cyclist/user) mention of cycling as a "very healthy activity and sustainable at the same time" indicates that promoting health lifestyles through the symbolic is congruent with promoting sustainability. This was echoed by Bruce (academic

staff/Vice Chancellor's Executive) when he commented: "[i]t's actually making the connection about there's a bike hub, it's been developed with sustainability in mind. So it is raising awareness of the issue". So far as people generally value human health, the Bike Hub can be said to symbolise value for all regardless of specific personal commitments to cycling and/or sustainability. This is an important strategy in operational managers attempting to make sustainability appeal to a wide audience.

Professional staff participants also noted how sustainability is being built into the brand of the university though projects like the Bike Hub. For example, Liz (professional staff) noted that "the best thing we ever did was to have the red lion logo on it, because we could modernise the university and get our image out there in a very friendly identifiable way". The Bike Hub's technological elements make visible the university's sustainability commitments in a particular way. This is made explicit by Patrick (professional staff/cyclist/user) when he claimed that the Bike Hub highlights "to other universities and the general community that the university does take alternative transport seriously". Patrick here emphasises how the Bike Hub's technological element makes the UTAS commitment to sustainable transport look 'serious'. Indeed, the significant media attention the Bike Hub has received for being technologically innovative also serves as evidence of the university's faith in the more technological aspects of sustainability (UTAS, 2012c, 2012d, 2013b, 2015d, 2016b). Liz (professional staff) also noted that the inclusion of technological elements are for the university a source of "very good media attention, people can see that the uni is trying to do things". She further suggested that the technological elements of the Bike Hub provide a means to enhance UTAS' reputation as an innovative leader in sustainable transport. This is clearly evident in the 2013 media release announcing that UTAS had won an Australian Bicycling Achievement Award (UTAS, 2013b).

The Bike Hub was also intended to be "attractive" to different people (Patrick/professional staff/cyclist/user). This design aim was alluded to by Liz (professional staff) in her account that the Bike Hub "doesn't need the marketing it speaks for itself". While this can be taken just to imply that its purpose is obvious it also suggests that the Bike Hub's message is broadcast to anyone who sees it. Professional staff participants generally believed that the Bike Hub is an expression of sustainability that is attractive to all cultures because of its technological elements. Chris a professional staff member within UTAS' SMT stated "I think whether you are an Asian student, a European student, an Australian student etc it's a really easy project to engage with". Chris went on to highlight that the Bike Hub's embrace of technology gives a sense of sophistication which would be appealing to many different cultures. Professional staff participants noted that a large part of the Bike Hub's attractiveness stems from its technological elements, which include incorporation of a solar energy production system, electric bike charging stations, and manufactured design. Liz, a professional staff member, suggested that these elements make the Bike Hub "quite funky" outlining the importance of technology in the Bike Hub's appeal to a wide audience.

Some participants expressed doubt as to whether the technological elements of the Bike Hub were of functional value to users. For example, when asked whether the Bike Hub's technological elements are helpful for cyclists, Karl with much scepticism noted that they "could not be plugged into solar panels and the power points would not work and nobody would ever notice" (academic staff/cyclist). Karl seems to suggest the technological elements are purely symbolic and are more about attracting attention than influencing behaviour.

An important dimension in the Bike Hub's appeal to a wide audience is ensuring that its symbology does not challenge existing values and attitudes. Its symbology is contextualised by its location juxtaposed within a parking area for cars and road infrastructure (see Figure 4.1). In effect, the Bike Hub can be seen, in terms of transport mode, to promote choices rather than take them away. Providing choice through the Bike Hub is part of the overall agenda of sustainable transport at the university as was made clear by one participant involved in setting this agenda: "we were very careful in the sustainable transport strategy to state that one of the main objectives is to lower the incidence of single occupancy vehicles through encouraging people to do other things, but not saying we are banning them" (Anonymous).

Another aspect of providing choice without contesting existing values and attitudes was highlighted by Sara (CSD operational support): "but I guess the thing is once a project like this [Bike Hub] is built that's it, it kind of stops there, just by the nature of the project". Sara went on to describe the nature of the project: "And I guess the main element here that's missing from this one [Bike Hub] is community … You know, its infrastructure" (CSD operational support). Sara stressed that the Bike Hub was primarily an infrastructure projects which limits how individuals can be involved and how its functional nature is set in stone (or for that matter manufactured wood and steel, and technological elements) by the absence of a community. Community involvement would change the Bike Hub's nature as finished, as just infrastructure, destabilising how it is to be interpreted as useful. The finished nature of the Bike Hub makes it a symbol of healthy living that can be marketed to a wide audience because it is not promoting specific values or attitudes of a particular community, but offers a value-neutral choice that some individuals may want to take up.

Theme 2: Making sustainability more convenient

The inconvenience of cycling was cited by a number participants. Most participants represented the purpose of the Bike Hub as addressing some of the many barriers to cycling. For one participant, barriers around cycling related to the question of "how comfortable do people feel riding?" (Joshua/CSD operational manager). Joshua went on to identify a number of barriers such as a lack of cycling infrastructure on and off campus, lack of bike signage, mandated helmet wearing, and cost of cycling equipment. Patrick also added the barrier of "the occasional aggressive driver" (professional staff/cyclist/user) and Jennifer added "hills, weather, you know what I mean. People who are scared of bikes" (CSD operational support). Collectively these barriers can make cycling an inconvenient and uncomfortable experience and, as Jennifer points out, for some, a scary experience. For Jennifer (CSD operational support), the Bike Hub is designed to "incentivise" sustainable transport "by providing facilities that will make it easier". Jennifer's characterisation of the Bike Hub aligns with its purpose as stated in UTAS media launching the project: to make cycling easier (UTAS, 2012c).

Participants who perceived many barriers to cycling thus regarded this activity as taking a lot of effort. Ruth (professional staff), someone who does not cycle, explained that "people like things to be easy and fast and if they gotta put a bit of effort in, and so sometimes that is too much of a big deal". While clearly the university has little control over many of the barriers to cycling, what it does have control of is the infrastructure it provides on campus. The Bike Hub was represented by operational staff as addressing the barrier of a lack of secure and sheltered bike parking infrastructure on campus. For example, Greta (CSD operational support), who also does not cycle pointed out that the Bike Hub provides "undercover parking for bicycles

rather than just all the old hoops or tie up to a tree situation". The Bike Hub also provides parking and recharging facilities for electric bikes. This is recognised generally by participants as an attempt by the university to address the barrier of topography and physical ability through technological innovation. Carolyn explained why:

> I have a bicycle but I hadn't used it just because of the sheer effort that is involved in getting home up a steep hill. And I was lazy…I decided that the only way that I would get on a bicycle was if it pushed itself basically up that hill (student/cyclist/user).

For Carolyn, the Bike Hub was convenient for her to use because it provided somewhere on campus to charge her electric bike, but also affords qualities in terms of being both undercover and lockable. This is much the same as for Patrick who also used the Bike Hub to park his electric bike. Patrick mentioned that his office building "did not have the facilities there to support you bringing in your electric bike" (professional staff/cyclist/user). While Carolyn and Patrick perceived the Bike Hub as making it more convenient for them to park their electric bike on campus the Bike Hub was not a reason for them to take up cycling. They already had a personal commitment towards cycling. It was this prior commitment that had led to each of them to purchasing an electric bike and cycling to campus.

A number of participants provided a critique of attempting to make cycling convenient through the Bike Hub. Sara explained that

> this is almost superficial sustainability to me. It's because you're not addressing the heart of the problem. You know if people want to ride their bikes they're gonna ride their bikes. The fact that they've got a nice place to park

> them really isn't the reason why people don't ride bikes (CSD operational support).

In using the metaphor 'heart of the problem' Sara's outlines how the Bike Hub overlooks systemic issues around why people do not cycle. Her critique suggests that the Bike Hub reduces the complexity of cycling and its uptake down to a matter of making cycling convenient through technology and infrastructure. One participant noted "Look you are a bike rider or you are not to some extent" drawing attention also to how the Bike Hub was not a fix for getting more people on bikes (Bruce/academic staff/Vice Chancellor's Executive). Carolyn (student/cyclist/user), also contributed to the commentary on the complexity of practice. Carolyn recounted her lived experience of cycling:

> like 20 years ago when I was very young I used to bicycle all the time … I didn't own a car so it was either bicycle or catch the bus or get a lift with my dad ... But yeah, back then I was more energetic and fit ... But once I had my daughter I stopped bicycling altogether, apart from the very occasional recreational trip. So for 22 years or something I hadn't bicycled. It was just that huge shift once I had a baby (student/cyclist/user).

Carolyn (student/cyclist/user) went on to outline that once you stop cycling "the more impossible it is to start that sort of thing up" describing why she cycled and did not cycle throughout her life as a "cultural way of doing things" that is "fashioned". Carolyn makes explicit the importance of understanding the complexity of practice through a focus on habits which are fashioned over time and situated within broader social norms and expectations. The development of habits has not been a conscious choice for Carolyn but rather the lived experience of negotiating the material and social

complexities of her life. These complexities in Carolyn's case include not just her values but her corporeal disposition such as her age and energy levels and the social identity characteristics of being a dependent, a student, and a mum.

Questions were also raised in regard to who the Bike Hub is convenient for. As Laura explained

> One of the joys of active transport, whether you are on a scooter or on foot or on a bike is that you just go right to where you want to go … But I think a lot of people who ride a bike to campus are just leaving their bike at the closet point to wherever they are going. Unless you are in Law or in Engineering or in Chemistry it's probably not going to be the Bike Hub (academics staff /cyclists/AOSIP).

The Bike Hub is inconvenient for Laura and others to use because in some way it is counterintuitive to the experience of cycling to work/study. Because of its very fixed location, it doesn't allow for the flexibility of door to door transport that so many see as one of the perks of cycling. Similarly, Carolyn (student/cyclist/user) also commented: "So there is something about proximity that obviously encourages usage and having a large facility that is located in one spot, which isn't central to everybody might be a disadvantage to its use" (Carolyn/student/cyclist/user). This brings into view how something perceived as convenient can also be perceived as inconvenient for others. Carolyn (student/cyclist/user) also commented: "I know that people here in the Geography building bring their bicycles up with them and park them in their offices. You know, the staff". Carolyn suggested that some staff can afford not to use the Bike Hub because of their privileged position of already having a secure and undercover bike parking facility, their private office.

Although the operational managers who funded and oversaw the Bike Hub intended it to be a convenient choice for everyone, in practice, many participants emphasised that it is a convenient choice for only some. The power of users to realise a choice when provided, brings into question whether making sustainability a convenient choice would change people's practices. That is, the potential for sustainability to be a convenient choice depends on the socio-materiality of other choices we have, where some clearly have more power in this respect. It also underappreciates how a culture of convenient choices has been implicit in the making of unsustainability.

Practice 2: Creating legitimacy within the university

Operational staff participants by and large understood the Bike Hub as an attempt to create legitimacy for ideas of sustainability within the university. Two major themes were found to be relevant to this practice: 'building legitimacy in the transition to sustainability' and 'adjusting sustainability to political realities'.

Theme 1: Building legitimacy in the transition to sustainability

Although the Bike Hub was presented by participants as a universally accessible and easily understood embodiment of the university's commitment to sustainability, it emerged that the Bike Hub had also been the source of disagreement and what Greta (CSD operational support) described as "a lot of bitterness". This conflict centred on what some perceived to be the excessive cost of the Bike Hub which as noted previously cost around $110,000 to construct (Peterson, 2017). The cost of the Bike Hub can be linked to the aim of operational managers to create a very visible and attractive bike parking facility through technological innovation rather than simply providing somewhere to house bikes. Greta (CSD operational support) noted how the spending of this much money on something which is essentially just infrastructure for parking bikes was a risk internally to the "director of CSD or executive director"

because at the time “a lot of people across the uni were losing their jobs”. At this time the university went through a significant re-structure process in which many academic and professional sections were rationalised in terms of funding, responsibilities, and staffing. Criticism of the Bike Hub centred around perceptions that the Bike Hub was competing with other university priorities. For example, Kevin, an operational manager within CSD, maintained that the Bike Hub’s “costs blew out a little bit” taking money away from more distributed bike parking infrastructure. Kevin demonstrates that different interpretations surrounding the meaning of the Bike Hub, in terms of resourcing, threatened its appeal to all members of the university community.

Linking the Bike Hub to university priorities has been an important aspect in its justification by operational staff. The Bike Hub provides one very important example of how the legitimacy of sustainability projects at the university can be created. The basis of the Bike Hub being a good decision depended on operational managers convincing the university community that it was a high priority and its funding could be sourced without competing with other priorities at the university. Joshua (CSD operational manager) explained that perceptions of the Bike Hub as a waste of money were managed by communicating to dissenters within the university that it was a priority listed under the “UTAS Sustainable Transport Strategy 2012-2014 signed off by the University Council”. Joshua also commented that building legitimacy also involved senior managers sending a bulk email communicating that funding for the Bike Hub would be sourced from increases in parking fees. This served the dual purpose of locating funding for the Bike Hub within operational budgets and portraying the Bike Hub as an investment decision into choices that provide transport

alternatives to staff and students. However, it may have also alienated car drivers further from cyclists.

Participant accounts of how the legitimacy of the Bike Hub has been created suggests that sustainability projects at the university need to be clearly linked to university priorities but also importantly seen to provide choices rather than take them away. The focus on constructing sustainability as choice was a consistent theme in operational manager accounts. In terms of the Bike Hub this seemed to be based around managing perceptions of the "[Bike Hub] as an attack on their [someone's] paradigm. You know you just trying to get me out of my car" (Joshua/Professional staff/CSD operational manager). Taking one 'out of my car' can be understood metaphorically to be taking one out of the inertia or habit of what makes them comfortable and is convenient. Alluded to here is that building legitimacy for sustainability within the university involves avoiding putting into question someone's ideology and assumptions by framing sustainability as a personal choice.

Theme 2: Adjusting sustainability to political realities

Aligning the Bike Hub with university structures has been instrumental to gaining support from senior managers. This is particularly important given that participants believed that the Bike Hub since its inception has had to struggle for legitimacy. Laura explained "[t]hat [the] project [Bike Hub] would not have happened if that particular person [CSD Sustainability Manager] hadn't persisted in the face of some really strong and powerful opposition" (academic staff/cyclists/AOSIP). She highlighted that "in the case of the Bike Hub, the person [CSD Sustainability Manager] who was driving that project had active resistance from parts of the university" (Laura/academic staff/cyclists/AOSIP). One participant alluded to this struggle when commenting that "there was a lot of having to convince management within the operational side in

particular the value of doing this" (Anonymous). While opposition to the Bike Hub from operational managers stemmed from concerns over the sourcing of its funding and alignment with university priorities it also was based on "the fact that they still didn't really understand sustainability staff and what their role within operations should be" (Anonymous).

The latter participant account hints at the confusion surrounding projects made in the name of sustainability at the university. A part of this confusion is the perception that sustainability is a personal agenda rather than a university priority. Laura (academic staff/cyclists/AOSIP) portrayed the creation of the Bike Hub as "driven by one person [CSD Sustainability Manager]" and that "it was largely done in their own head with their own abilities rather than it being a team effort". While this may be taken simply to mean that this person did all the work, the use of the word 'driven' indicates that this person was self-motivated, impelled and had a passion for what they were trying to achieve. Sara (CSD operational support) also commented on the personal nature of creating sustainability projects when she commented that "I think it's definitely a personality thing. Umm this project [Bike Hub] I don't think would have happened, it wouldn't have looked like this at all". She went on to note "so it definitely wouldn't have happened without that … without the people that were pushing for it [Bike Hub] to happen" (Sara/CSD operational support). This was mirrored in Bruce's comments that "in the case of the Bike Hub I think it was [CSD Sustainability Manager] and a couple of other people that really pushed hard for this to be introduced" (academic staff/Vice Chancellor's Executive). The notion of pushing hints at more than supporting something because it is your job but investing energy and oneself into making something happen. While many participants understood the role of passion in creating sustainability projects at the university, by and large operational managers

saw this as contesting to normal university practice. Operational managers believed that decisions should be made in line with institutional rules and policy through detached reasoning not based on personal values. John made this clear in relation to the Bike Hub when he commented that

> I think time is an issue, people are busy … If people have [a] real urge to, for example, see the merits in setting up a bicycle facility like this they will get involved. And that should be encouraged, but they have got their day time job as well (CSD operational manager).

While John spoke directly to the perceived motivations of staff who have been involved in setting up the Bike hub, he also expressed a general assumption held about the rationality of those involved in creating sustainability projects at the university. John assumed that those that get involved are bringing their personal values into the workplace potentially at the cost of doing their job.

Adjusting sustainability to political realities was made clear by Joshua (CSD operational manager) when he outlined that arguing for the Bike Hub involved making it "operationally palatable. Budgetarily palatable. It had to be politically palatable. Therefore, it had to clearly respond to a high-level strategy or policy for the university". As John (CSD operational manager) noted, this involves developing a "business case, document it, get it up through to a university committee". As with the development of most business cases, defining strategic value is an extremely important competence in obtaining support through organisational structures concerned with funding and staff resourcing. Participants outlined 2 key aspects of the Bike Hub's strategic value. The first was represented strongly by CSD staff participants. Greta (CSD operational support) commented that "[t]here had been already a ridership

survey [referring to UTAS Transport Survey in 2012] undertaken. This is what they wanted. So that was actually pretty high priority". In defining the strategic value of the Bike Hub, it was important for operational managers to evidence demand for cycling infrastructure. By empirically validating and quantifying demand, the Bike Hub's legitimacy is framed as an objective truth around what the university community needs. The components of design and sizing of the Bike Hub was also a key feature in this respect. Joshua explained that "it's very intentional that we publicise the fact that its over-subscribed" (CSD operational manager). Joshua went on to highlight that the Bike Hub is designed to be large enough to have a visible impact on passers-by at the same time as being designed in such way as to give the appearance of high demand.

The second aspect of how the Bike Hub realises strategic value was expressed by Eric (student/cyclist) about his knowledge of how the project was developed. He noted how "doing research about where people were coming into the uni and login riders" was important to "try to justify it [the Bike Hub]" (Eric/student/cyclist). In line with the aim of AOSIP the Bike Hub was aided in its justification based on mobility data collected through a process which involved research by university students and academics. University students and academics were also involved with operational staff in the design and construction of the Bike Hub. This collaborative approach to the greening of campus operations was emphasised by Kathy:

> Facilities and services, commercial services, facilities all this stuff that we do research here, and they do teaching here. So it [the Bike Hub] doesn't fit into that model very neatly. So the silo model is being sort of chipped away at the moment if you like. This project sort of starts to question, put some questions around that (academic staff/AOSIP).

By involving students, academics and operational staff in the development of the Bike Hub, the Bike Hub's strategic value is constituted as more than infrastructure provision in response to cyclist needs. The Bike Hub also becomes a site for outcomes in terms of interdisciplinary knowledge and action learning in line with the university's aspiration set out in the *UTAS 2016-2020 Strategic Plan for Learning and Teaching* (UTAS, 2016c, p. 4). Evidence that these outcomes have strategic value in real terms for the university is the Commonwealth Office of Teaching and Learning award in 2015 for the Bike Hub as an AOSIP project (UTAS, 2015d).

Practice 3: Creating real-life learning for sustainability

Academic staff participants understood the Bike Hub as an attempt to create real-life learning for sustainability. One major theme was found to be relevant to this practice, that of 'campus operations as a real-life learning environment'.

Theme 1: Campus operations as a real-life learning environment

Students and academics have been involved in the Bike Hub throughout its process of justification, design and development through UTAS' AOSIP. Laura reflecting on this experience commented that

> [i]t was really difficult to try to get them [students] to step back and see that there is no right and wrong, this is how it is, this is how things work, people have different perspectives and you need to be good at problem solving and that's it (academic staff/cyclist/AOSIP).

Laura went on to suggest that "maybe some of that [understanding different perspectives] is simply stuff you have to learn through life experience and you can't necessarily teach that in a class" (academic staff/cyclist/AOSIP). She implied that this includes negotiating the perspectives of different disciplines and much as individuals.

Laura's account brings attention to how real-life learning is developed by involving people in the complexity of grounding ideas and concepts of sustainability through practice. The aim here is to bridge learning in the abstract with learning in the concrete lived experience of creating sustainability projects at the university. Laura also maintained that this type of learning provides students "with the opportunity for a messy complicated experience, and lets them try to make sense" of the complexity of the world (academic staff/cyclist/AOSIP).

Joshua (CSD operational manager), suggested that the "whole idea" of the Bike Hub "was to demonstrate the value of wholistic thinking around sustainability". Laura (academic staff/cyclists/AOSIP), giving a sense for what 'wholistic' means in the university context, commented that "the Bike Hub is a demonstration project about what can be achieved when people work together". When asked 'which people?' Laura replied "CSD and academics such as myself and students and other people in university administration who are not part of CSD" (academic staff/cyclists/AOSIP). Highlighted by Laura is that the Bike Hub as a real-life learning environment is considered 'wholistic' because it attempts to create a whole-of university-approach to sustainability, one which creates shared responsibility for sustainability (McMillin & Dyball, 2009).

While consulting students and academics in the creation of infrastructure projects on campus is consistent with normal CSD practice, involving students and academics directly in the justification and design of infrastructure is unusual. Kathy (academic staff/AOSIP) talked specifically about this when she explained that students were involved through "action learning" in "collecting information and thinking about what was required in that space" and getting them to "design it [Bike Hub]". Laura (academic staff/cyclists/AOSIP) similarly commented that a key ingredient of

consultation should be to enable "students [to] get empowered to say something about their campus and how it's run". Laura's claim is supported by a video on the UTAS Website portraying the experience of different students who have been involved in AOSIP. In this video students comment that they have felt inspired by knowing that their learning contributes to real sustainability projects on campus (UTAS, 2017a).

While the Bike Hub as an AOSIP project provides real-life learning for sustainability, as Joshua (CSD operational manager) noted "it has to be a project which delivers operationally". This was recognised by Kathy (academic staff/AOSIP) when she stressed that the number one priority was to "to improve facilities". This was further substantiated by Kathy when she commented that another key objective of student involvement was to "contribute to the cost savings of the university" (academic staff/AOSIP). Hence, in the context of campus infrastructure projects, real-life learning for sustainability can be defined as action learning conducted in the environment of different perspectives (whole-of-university approach) towards the goals of delivering greening of campus operations (Noonan & Thomas, 2004; Ralph & Stubbs, 2014; Tilbury, 2011).

Implied in the previous definition of real-life learning for sustainability is that academic practice is to be integrated as a means toward the ends of greening of campus operations. However, this can be challenging for operational managers, let alone student and academics. For example, Joshua (CSD operational manager) indicated that involving students and academics has "delayed the progress" of the Bike Hub. Exposing students to "the opportunity for a messy complicated experience" can result in much uncertainty in terms of time frames of infrastructure projects, knowledge production, and student learning itself (Laura/academic staff/cyclist/AOSIP). Student involvement in the creation of the Bike Hub has been managed so as to minimise

uncertainty in outcomes. Kathy (academic staff/AOSIP) noted that "students are involved, I guess, in a structured way because their courses are delivering various competences and knowledges". Kathy here points out that students were presented with an environment that had feedback on their requirements for coursework. Sara (CSD operational support) explained that "what made this project unique, certainly for UTAS, or actually for universities within Australia, is that they had documentation and a formal process for using students". Sara's expression 'using students' implies that while students are deriving a benefit in terms of course credit, students are not given free reign but are actively working to achieve outcomes for operational managers. Sara went on to note how giving primary focus to infrastructure and operational outcomes when including students in the Bike Hub "made it legitimate" in the context of the operational managers (CSD operational support).

In the case of the Bike Hub, knowledge was produced in the context of achieving many practical outcomes. These outcomes included meeting coursework requirements, providing work-integrated learning, experiential and authentic learning, creating infrastructure on campus and improving the university's reputation in sustainable transport. The degree that any one outcome dominates over another influences the way knowledge production is valued within a real-life learning environment. Letting students make mistakes and take time to develop critical learning through reflection on their own assumptions and those of others may not be conducive to producing green campus products ready for use or market. For example, Sara (CSD operational support), in reflecting on what knowledge was involved in the Bike Hub and why, noted that "There was a consultant, there was technology, there was [sic] experts". Sara commented that technologies such as electric bike charging stations, solar power and manufactured materials were included to "put UTAS on a pedestal" (CSD

operational support). She maintained that by including these technological elements emphasis was given to “expert knowledge”. In this context knowledge produced by a philosophy student or a lay person may not be as useful as compared to knowledge produced by an Architecture, Engineering or Marketing student.

Chapter 5: Source Community Wholefoods: case study 2

Source – context

If I wasn't walking but driving past I would probably would not even see this building. Doesn't appear to be part of the university. The material and structure of the building is very different to the rest of the buildings on campus. It is made from straw bale and hardwood, some of which looks recycled. It's a very humble building. There are water tanks, gardens and chickens that can be seen. I can also see that someone has been working in the garden, soil turned over, tools and water hose left around. There is a bike parked near the front gate, some music coming from inside the building, and the smell of food being cooked. The garden looks similar to mine at home. I also use a floppy fence and bright materials waving in the wind to keep wallabies, possums and birds out. This is a method that I have chosen because I do not want to use electricity to make my vege patch secure. The grass is also over grown like my vege patch at home. It appears to me to look like someone's home. The only indication that it is something other is a metallic sign out the front of the building highlighting the words 'Source Community Wholefoods'. This sign indicates to me that there is a project going on in this building that is other than just residential living, thinking obviously 'wholefoods and community'. However, I still think someone might live there. (Researcher's field diary, observations of Source when walking past on the morning of 17 January 2015)

Figure 5.1: Source, UTAS Sandy Bay Campus (Photo Author: Kamal Singh)

Officially opened in 2010, Source is a not-for-profit food co-operative project organisationally independent from UTAS but situated inside the university grounds and used by staff and students as well as other community members (Source, 2015a). Source is member owned, and while employing the equivalent of one staff member, it is run primarily by UTAS students and community member volunteers (Rooney, 2016; Wills, 2013). The site for the project is located at the edge of the UTAS Sandy Bay Campus and is relatively easy to miss since it is on the lower side of French Street where it is hidden behind the large Tasmanian Union Building (see Figure 5.2). Prior to Source, the project site was largely unused by UTAS because of its small size, location and relatively steep topography. UTAS now leases out the site to Source. The site now houses a community vegetable and fruit garden, chickens, pizza oven, and various seating areas. The main building, constructed of wood, earth and straw bale, operates as a café and organic and local wholefoods outlet. The site is used to host occasional learning and teaching activities and, more often, social events such as pizza,

live music and movie nights, and workshops on permaculture and food production (Source, 2015a; UTAS, 2009a; 2012a).

Figure 5.2: Location of Source at UTAS Sandy Bay Campus

Source exemplifies how universities, the world over, provide sites for the nurturing and fomenting of ideas and imaginaries that inspire students and staff to become involved in social movements and activism for change (Broadhurst, 2014; Darian-Smith & Waghorne, 2016; Delgado & Ross, 2016; Dilevko, 2016; Murphy, 2015; Risager & Thorup, 2016):

> Formal education, especially at the university level, is the main avenue through which people acquire advanced reading, writing, speaking, and analytic skills, and colleges and universities are settings in which many individuals absorb new ideas from different cultures … Studies show that contemporary social movement leaders tend to major in the social sciences, humanities, and arts. Our view is that these fields of study are highly relevant

> to movement leaders because they constitute a ‘‘science of human action’’ that imparts movement-appropriate skills. Many activists learn relevant values from their parents, which are then reinforced by the experiences and skills gained through education (Morris & Staggenborg, 2004, p. 175).

The project, Source, was first envisaged in 2005 by a group of highly motivated UTAS undergraduate students inspired by their attendance at the 2005 Australian Students for Sustainability Conference and exposure to different ideas and actions underpinning sustainability through their enrolment in the UTAS School of Geography and Environmental Studies. This group then intentionally set to the task of turning their learnings into practice (Source, 2015a; Wills, 2013). This involved the setting up of a UTAS Student Environment Collective which is still active today (Rooney, 2016; UTAS South Enviro Collective, 2017). Through this collective, the thinking behind Source emerged and a proposal for its establishment was put to the university administration.

UTAS, somewhat grudgingly, provided in principle support for the project and granted use of the site for this purpose in 2005. Over the next 5 years the collective and its project reached out to new members, sought support from academic teachers, and attracted significant in-kind and in-cash support from many different organisations and individuals to survey and design the site, acquire building materials and garden tools, and construct infrastructure and gardens. Support was provided through a Tasmanian Community Fund grant, AMS, Hobart City Council, Tasmania State Government Premiers Office, Tasmanian Department of Families, Communities and Indigenous Affairs, Tasmania Department of Tourism and Environment, Tasmanian University Union, donations by local businesses, and an income stream provided by staff and students who paid for life memberships (Source, 2015a).

In 2008 Source became incorporated as a non-profit co-operative and in 2010 signed a peppercorn lease of $100 per year with UTAS for use of the site (Rooney, 2016; Source, 2015a). As an incorporated entity, Source has a legal constitution and governance procedures which include a Board of Directors with elected officials, general and annual meetings, a formal consensus decision-making process, voting rights for members, the requirement to record meeting minutes, a process for dispute resolution, various levels of membership and processes for member recruitment (Source, 2015b).

Source has sporadically featured in UTAS media over the period 2009-2015 as a demonstration of sustainable living, a source of ethical food, and a place on campus to socialise, a place to celebrate UTAS' Earth Hour event, a not-for-profit grocery store and cafe selling a wide range of local and organic produce, a community project requiring volunteers and an extra curricula opportunity for food sustainability research (UTAS, 2009a, 2013a, 2014a, 2015c). These media articles construct Source as site for the coming together of community over social action and learning for sustainable living. Similarly, on the Source website, it is represented as "a place to explore social and environmental issues, acting as a living example of urban sustainability which encourages community involvement and creativity" (Source, 2015a). Source as a site for community connection and experiential learning is also made clear in it legal constitution. Here one of the main purposes of Source is "[t]o facilitate community development through education, workshops and practical experience in the running of the co-op and gardens" (Source, 2015b Section 6.6 of Source's Constitution).

Practices constituting Source

Appendix H shows the result of analysing Case Study 2 interview transcripts through the use, again, of a conceptual division of practice into materials, meanings, and competences (Shove et al., 2012). Interviews were conducted with professional staff, academic staff, students, and external community members who use Source, are members of Source and/or who held views about its purpose. Three major practices were identified as central to the creation of Source:

Practice 1: Creating a community co-operative;

Practice 2: Creating a countercultural organisation; and

Practice 3: Creating a place of experiential learning.

In what follows I examine major themes relevant to each of these practices. Table 5.1 lists participants involved in constituting these practices, using pseudonyms and general descriptions of their role within Source to provide anonymity. Again, where a participant could be indirectly identified from a particular interview excerpt their voice is categorised as 'anonymous'.

Table 5.1: Participants involved in discursively performing Source

Pseudonym	**Role within UTAS**	**Characteristics related to Source**
Eric	Student	Active member
Sara	Professional staff	N/A
Kelly	Student	Active member
Laura	Academic staff	User
Joshua	Professional staff	CSD operational manager
Mary	N/A	Community active Member
Patrick	Professional staff	User

Chris	Professional staff/ Senior Management Team	N/A
John	Professional staff	CSD operational manager
Kevin	Professional staff	CSD operational manager
Greta	Professional staff	N/A
Kathy	Academic staff	N/A
Jeremy	N/A	Community active member
Karl	Academic staff	Active member
Bruce	Academic staff/ Vice-Chancellor's Executive	User
Amy	N/A	Community active member

NOTE:

- 'Academic staff' denotes participants who held academic positions at the university.
- 'Professional staff' denotes participants who have official roles as staff members within the university's administrative sections, such a human-resources, campus operations, finance, information technology etc.
- 'Senior Management Team' (SMT) denotes participants that were part of the University's decision making and performance management body.
- 'Vice-Chancellor's Executive' denotes participants that were part of the University's collegial forum, comprised of senior academic and professional leaders, for the discussion of emerging strategic issues.
- 'CSD operational manager' denotes participants that were 'professional staff' of the university's Commercial Services and Development Section and which have managerial responsibilities for campus operations and built environment.
- The category of "Active member" denotes participants who were actively involved in how Source is run through volunteering their time and were differentiated from people who may be members but primarily just use Source to eat lunch or buy produce. "Community active member' denotes that this 'active member' was not a student or staff member of UTAS.
- 'User' denotes participants who use Source to eat lunch or buy produce but were not an 'Active member'.

Practice 1: Creating a community co-operative

Participants generally understood Source as a project for creating sustainability through a community co-operative centred on food production and consumption. Three major themes were found to be relevant to this practice: 'creating a co-operative on university land', 'growing a community co-operative' and 'creating a place of connection'.

Theme 1: Creating a co-operative on university land

A student and active member commented that Source provides a network of community connections, which include a "link to university students" (Eric/student/active member). The ongoing importance of students to Source was widely noted by research participants. As Sara, a professional staff member, explained, Source was initiated by "a bunch of students" who were highly motivated and is still "a student driven project". For her, Source is the outcome of students "collectively deciding that they needed something and working together to actually produce it. And then, once that happened, they have actually opened it up to a wider community" (Sara/professional staff). It was the dedication of this original cohort of students wanting to connect with the wider community on sustainability issues that has made Source what it is today. Furthermore, according to a community active member, the support offered by both "the student community and the broader community" has made Source a "pretty stable entity" (Amy/community active member). For the majority of participants, student and wider community involvement was perceived as key to establishing Source and also critical for its continuation.

The significant in-kind and in-cash support received from organisations and individuals outside of the university suggests that Source does indeed serve a community purpose. Research participants who were active members of Source noted that community involvement is directed toward a specific purpose. One of the project's founders described Source as "pretty much all about the food as a way to engage people with sustainability, so we also have a garden" (Mary/community active member). Source's focus on local food consumption and production thereby provides "a space where people can come and learn about those things and discuss them" as just one part – albeit an important one – in building "local resilience" within communities

(Anonymous). Likewise, Eric (student/active member) outlined that Source is a "hub" for "environmentally conscious people". For him, it is similar to a club where you "can get people together and hold events", but it is also somewhere that he can express his environmental concerns and a place on campus where he feels a "sense of community" (Eric/student/active member). For Eric (student/active member) it is also a space where people can "do stuff collectively and support each other" involves students while they are enrolled at UTAS and "after they've finished [studying]" as well as those who have "never been to UTAS" but can then likewise "be linked in some way to university life". A strong feature in participant accounts is Source's facilitating a supportive community for addressing sustainability on university campus. Facilitating a supportive community is afforded by providing a place where people can work co-operatively and collectively in pursuing sustainability rather than attempting to do so as individuals.

Source is a project established on university land but it retains considerable independence from UTAS organisationally, with the university's involvement being akin to that of a (disengaged) landlord. One CSD operational manager commented that "we didn't, upon recollection, have a huge amount [of Source active member] call on our time .. they really got in and did it themselves. It was their building" (John/CSD operational manager). This view was supported by Greta who was involved in awarding one of the many government grants Source received in the period 2005-2009. Greta (professional staff) recalled that Source "didn't seem a hefty part of the uni. It just happens to be located on uni property". An active member of Source, today still, commented "we don't really have much to do with them" (Mary/community active member).

The independence of Source from UTAS serves a specific purpose for Source members. While UTAS has provided "a cheap lease and some financial support", this support has some constraints (Mary/community active member). As a SMT member (professional staff) at UTAS explained: "So to do anything on, or within the university campuses or grounds is subject to [university] process and bureaucracy" (Chris). To begin, Source had to "get buy in" from the university to be allowed to use the site (John/CSD operational manager). From a CSD operational manager perspective John outlined that this involved determining "what was the standing of the group", "all the legal issues around it", and "boundaries and all that sort of stuff". One community active member stressed that obtaining support from UTAS meant that Source had to be part of "the university system" but commented that "we want to keep our autonomy and we want to remain a co-operative" (Amy/community active member). While active members recognised the importance of conforming to the university's bureaucratic processes to be granted use of university land, they also believed that these processes could threaten the co-operative identity of Source.

Making a distinction between Source and how the university (narrowly defined) is meant to operate can also serve a purpose for university operational managers. John (CSD operational manager) mentioned that his operational interest was focused on how Source "occupied the site". John's use of the term 'occupied' outlines a perception of Source as taking up space rather than creating a place of value. In this way, John creates distance between his role at the university and Source. John also showed signs that he has maintained this separation personally when he mentioned that he "hadn't been over there" and that his understanding was that it was somewhere "you can grow stuff and buy stuff" (CSD operational manager). For John identifying the line between Source and how the university is meant to operate was important so as not to mistake

his apparent value-neutral university role for the values of Source. The perceived values of Source was expressed by Chris, an SMT professional staff member, when asked if he thought there were any barriers to people getting involved with Source: "do you mean the fact that most people [there] have very long hair and wear home spun jumpers. No I don't". However, while this perceived difference was deemed not to be obstructive, his tone of voice indicated otherwise. He further articulated that the days of "conservative right versus the more radical left" were gone in Tasmania (Chris/SMT/professional staff). His comments highlighted his perception of Source as an organisation aligned with the values of radical left wing politics.

Generally, all participants spoke of Source as a separate entity from the university not just by legal definition but also in terms of social groupings. Amy (community active member) confirmed this when she commented that Source "does not fit nicely into the boxes" of the university. The perception of Source as not fitting into the university's 'boxes' was also made explicit by Laura in her account of why the university is resistant to providing further support. Laura explained that "it would have been a lot easier for [Source]" had they obtained a "greater diversity of buy-in" (Laura/academic staff/user). Laura suggested that Source does not fit into the university's 'boxes' because its membership is comprised of people with values that are potentially confronting for those university managers who would like to maintain their distance from politics when working at the university.

Theme 2: Growing a community co-operative

A common perception held by participants was that Source involved people who are concerned about the sustainability of food choices. More specifically, John, a CSD operational manager, believed that these people were "all like-minded" and that if you "have a natural bent to environmental sustainability you would probably go there

rather than McDonalds or something like that". John's generalisation about the type of people involved in Source is important for at least two reasons. Firstly, it allows Source to maintain a certain identity separate from certain aspects of the university, made clear by active members who noted that being separate from the university was important to maintaining Source's autonomy and co-operative nature. Secondly, it provides a certain structure and focus for involvement. While generalisations of Source as for the 'like-minded' may prevent some people from getting involved at the same time it provides focus to what involvement in Source means for those who do.

Generalisations about Source are helpful in stabilising it as an entity to get involved in or to maintain a distance from. Participant accounts also suggest that Source is a dynamic project. Source's dynamic nature has a lot to do with how it has grown and continues to grow as implied by Chris when he commented that he was impressed that an organisation such as Source "can take that land for no additional cost to the university and turn it into productive space" (profession staff/SMT). Chris went on to point out that on the site there is now a business that has created infrastructure, and sells and grows food. Much of Chris' commentary concerned the growth of Source in terms of particular outcomes. However, growth is conceptualised by active members of Source not simply or only as a means to increase outputs, the sale of products and income revenue, but rather as something which is determined and re-determined by the members involved. As Jeremy explained

> [t]here is definitely space for improvement, definitely things that need to be done that are going to be done but it is really dependent on who is here to do them and how what energy they bring and what interest they bring to offer ... for me, the energy of the time is what defines what the next step is (community active member).

Jeremy's account highlights that Source allows room for personal interests and the energy members bring in determining the direction in which it grows. For example, Patrick a professional staff member who uses Source to eat lunch and shop commented that he has "heard a number of staff comment about that they [sic] have gone over there for lunches"**.** Word-of-mouth advertising here is facilitated by and based on the sharing of personal experiences of the project. Unlike conventional marketing, there is no certainty that any one person will advertise the project favourably. However, what is certain is that Source's word-of-mouth marketing is connected to peoples' lived experience and the sharing of this experience influences the growth of Source.

The sharing of personal experience by members of Source has been a key feature in how Source has grown on a more fundamental level. Kathy, an academic staff member, noted that "I think it was more driven by a community group. I am sure the experts that they brought in [were] just the experts in that area within the community". Sara a professional staff member also believed that community was integral to the life of Source: "You know they're growing vegetables, they're making food, they're selling food". She emphasised that "to insure it [Source] continues to function the community has to function" (Sara/professional staff). Implied by Sara and Kathy is how the sharing of personal experience between Source's community is integral to Source's continuance. It is this sharing that has created productivity on a piece of land considered by university managers before Source was established as unproductive.

The emphasis on members getting involved personally by sharing their personal experience means that the potential for change is actively embraced within the growth of Source. This can be demonstrated through the way in which the involvement of members is accommodated in the making of decisions. By this I do not mean just making decisions on which vegetables to plant in the garden, but also in how things

are run. For example, Karl an active member of Source maintained: “If we don’t have a product and there is something you don’t like or the way it is done you can do something about it”. Karl indicated that members can make decisions informally themselves so long as they take responsibility in making changes. Another aspect of how change is accommodated in the growth of Source is the way in which decisions are made through consensus (Source, 2015b). In reflecting on her experience of consensus decision-making within Source, Mary (community active member) commented “maybe there are two people who disagree with each other, but once we talk about it they either see a third way or someone changes [their] view”. She maintained that reaching consensus “takes a long time”, however in the end “the whole group of you would have all contributed to that decision and you all [sic] have got to feel like that is our decision” (Mary/community active member). By using terms such as ‘feel’ and ‘our decision’ Mary brings attention to how emotions are important to reaching consensus, and that rather than avoid them or bracket them out they are important to building ownership in decisions and building solidarity between members. Mary also suggests that by allowing people to express their differences in decision-making, preconceptions and predeterminations are brought out in to the open for them to be challenged and potentially changed. This potential for members to change their views means that there is also a potential for Source to grow differently depending on who gets involved.

The important role of emotions in making decisions at Source was also stressed by Kelly (student/active member), when she recalled her experience of having to make a “lot of space for people to get angry and people to say I am not being part of this decision”. She commented that while this was “a really messy process” it meant that “you walked away feeling like, we thrashed it out as best we could, we actually tried”

(Kelly/student/active member). By using words like ‘thrashed’ and ‘tried’ Kelly indicated that embracing emotions in decision-making takes effort and can be painful. Much like Mary, for Kelly, an important part of consensus decision-making involves providing people with the space to express their emotions and disagree. She noted that this does not guarantee results however it does mean that ownership of a decision can be located with specific individuals increasing their potential in taking responsibility for decisions made. She also highlighted that it means that any decision, in so far as discontent has been raised and kept in sight, is never final.

Laura, an academic who uses Source to eat lunch and shop, referred to Source as “a very different case to the Bike Hub” because it is an “ongoing project”. Asked what she meant by this she commented “[y]eah, Source is alive both in terms of personnel and the actual garden and you know the ongoing pizza nights, the kind of community events that you have there” (Laura/academic staff/user). Jeremy (community active member) also gave a sense of how Source is ongoing: “It’s like an ongoing process. There is always going to be the next step. That’s just how the world works, there is always the next step. That is ecology, that’s life”. Jeremy’s aligning of Source with ‘ecology’ and ‘life’ complemented Laura’s reference to Source as being ‘alive’. The ongoing living element of Source is reflected in the focus active members give to reusing food waste as compost to growing food organically. While this can be taken to growing food without excessive inputs as part of “closed loop system” (Amy/community active member), at a more philosophical level it indicates a focus on the internal processes of growth. Rather than denying passions, for active members, Source invites and ignites passion by creating a place where people can volunteer their time and energy, and express their differences and concerns. This means that Source as an entity is continually determined and re-determined by those involved personally.

Here getting involved personally means the investment of passion, emotion, time, energy and experience of the many lived realities which are collectivised into what Source continues productively to become.

Theme 3: Creating a place of connection

A significant theme amongst participants was that Source is connected to the lives of those involved. Laura (academic staff/user) proudly noted that she was a "life member of Source". In establishing Source a limited number of life memberships were offered as a way to raise funds through individual donations. In return these members would receive discounts on shop produce over the life of the project. The term 'life' used to characterise this type of membership also highlights how Source is a project that has long-term aspirations and to which people can commit their lives. Further evidence of this is exemplified in comments such as "Source is peoples' livelihoods" and a "serious people and financial investment" (Laura/academic staff/user).

A common theme in active member accounts is that Source provides a place to make connections with other human beings, in public and private life, and with nature. For example, Kelly (student/active member) used the terms "socially connected and ecologically connected" to describe what she values about Source. This was also evident in Amy's representations of Source as

> [a] really important kind of oasis within the UTAS campus for people to come and kind of get away from the computers and get away from the fluorescent lights and sit in the garden and in the sun and eat lunch and talk to people (community active member).

Amy's representation suggests that Source is a place the people can come to too disconnect from the modern technological world. Amy (community active member)

went on to describe Source as “a place for people to connect” and “place of connection to the outside world”. Amy’s depiction of Source as an oasis, creates an image of a project that is refreshing, revitalising, conducive to making and maintaining connections; a place many people would feel at home at. The home-like quality of Source was also noted in the comment that **“**Source looks a lot more, I use the word basic, a lot more home-grown” (Chris/SMT/professional staff). Chris’ perception of Source as ‘home-grown’ alludes to his outsider perspective of how Source appears on the surface. The homely aesthetics of Source include such things as the mismatched cutlery, a worn, old dining table, the free library of swapped books, lounge area, rambling vegetable patches, unmown grass, and roaming free range chickens. They highlight the organic, everyday lived-in nature of Source and can understandably influence perceptions that it is home-grown. However, these material expressions can also be taken to be artefacts. That is, they are constructions made by human beings and reflect personal tastes and feelings.

For active members the home-grown quality of Source extends beyond the surface aesthetic of its materiality to include how they feel at home at Source. Power and Dowling (2016) use the term ‘homeyness’ to refer to that sense of a place associated with one’s home. Here the materiality of place is co-constructed with feelings of homeyness. Homeyness speaks to how the materiality of Source is filled with meaning connected to lives and livelihoods. Active members outlined a number of features to the homeyness of Source. Amy (community active member) explained “It’s a very personal space where people are probably more likely to sit down and chat to the random stranger eating lunch near them”. For her the personal nature of Source stemmed from a feeling of being free and comfortable to share her life experiences with other people. Source also has many symbols which reinforce a personal

connection with nature. These symbols include everything from the earth rendered walls, its straw bale construction to a design which from the inside of the building foregrounds the outside world through large, often open, windows and doors which look out onto the vegetable patch, fruit garden, and surrounding natural bushland. For active members these symbols of connection create an undifferentiated line and/or continuity between where human material construction ends and nature starts. For example, Mary (community active member) commented that "connecting with the soil, and life around us" was one of the "amazing things that can come from growing your own food" at Source. She highlighted that rather than being something separate from us, nature can be constructed as the ultimate otherness which includes us, as we depend on and are necessarily connected to it. This foregrounding of a connection with nature can thus trigger a confrontation with one's self. Hence, the homeyness of Source arises from its being a place for connection not simply or only with nature but with one's self and, in the process, for defining and redefining individual and collective identities.

The homeyness of Source also plays a role in blurring the distinction between private life and public life for many of its active members. "This [Source] is definitely a piece of my home" for one member who went on to say "I dream about Source at night sometimes" (Jeremy/community active member). Jeremy's account emphasises how Source can be a place in which active members have deep personal connection to. Kelly (student/active member), also explained that "there is a real blurring of lines between my social relaxing, like my every day enjoyment life, recreational life and my involvement in Source". Much like for Jeremy, for Kelly, Source is a place where she feels at home. Both exemplified how for many active members there is a fluidity in the work they do when at Source and the life they live more generally. Source

represents for many of those involved, a home where passion can be taken as a common ingredient for people coming together to make connections with nature. This commonality may be portrayed by those who maintain their distance from Source as people from the radical left of politics who care for nature. While there is no doubt Source does provide a home to these people, more importantly and perhaps less ideologically, as a home it provides a place to feel comfortable to express passions and concern for all human and non-human members of the world.

Practice 2: Creating a countercultural organisation

Active members of Source, its users and supporters believed that an important part of creating a more sustainable society is creating countercultural organisations critical of many modern institutions, particularly those associated with corporatism. Two major themes were found to be relevant to this practice: 'contesting corporate culture' and 'providing a refuge for concern'.

Theme 1: Contesting corporate culture

Participants who were active members/users/supporters saw Source as contesting business-as-usual at the university. For example, Laura, an academic who uses Source to have lunch and shop, commented that she liked the fact that she can "buy food grown in Sandy Bay, and if it is not grown at Source then it is, at least, sourced from places that I trust, … places I want to buy from". The trust many participants invested in Source was linked to the fact that "it's not to make profit" identity (Mary/community active member). This indicates that Source is not just primarily about food sourcing or production but also a response to deeply political and culturally vexed issues. For example, when asked whether UTAS could provide more support to Source, Jeremy (community active member) commented that rather than "support the Source building" it would be more important for the university "to support the Source mission". He

explained that that the university "hinders what we are trying to achieve" as evidenced by its "hav[ing] invested in fossil fuels" (Jeremy/community active member). Jeremy draws attention to how active members of Source seek to contest what the university invests in. Jeremy made this explicit when he noted that a number of Source's members participated in the 2015 sit-in at Sandy Bay Campus demanding that the university divest from fossil fuels.

Sara also focused on what the university invests in when comparing Source to Lazenby's which is a café located in the middle of the Sandy Bay Campus. Sara commented that Lazenby's is

> perpetuating a culture that we, you know, I think we need to move away from because it is not supporting local produce … it's not supporting fair trade products … it's not supporting healthy eating, even, really. It's not helping people think about their food (professional staff member).

Bruce also compared Source to Lazenby's by commenting that

> Lazenby's in lots of ways is an up-market cafeteria that is very nicely finished in a much more central location. [Source on the hand], If you get more than 10 people, you can't sit down. It's very dependent on the weather (academic staff/Vice Chancellor's Executive).

Bruce (academic staff/Vice Chancellor's Executive) highlighted what many other participants who use Source also noted: that it offers a "very different experience" and it "doesn't feel like part of the normal fabric of the way we [the university] do things". Greta (professional staff) expressed this in terms of how Source is seen as encouraging people to think differently "perhaps by all the different images and things that are there

and what people are saying and conversations". Greta clearly makes a link between the symbology of Source, the discursive interaction which is supported there, and how all of this can affect and potentially change one's thinking. Similarly, Karl (academic staff/active member) commented that Source "provides an alternative view of the system". His use of the term 'the system' was associated with corporate culture and its reliance on an economic system that treats nature and people as resources to be exploited. Mary explained how corporate ideals are internalised within the conventional food production system:

> like Woolworths and Coles the supermarkets. These big companies dominate the Australian food market. They have a lot of power and that plays out in our farming systems … I don't feel that they pay farmers fairly to look after their land for the long term, and to have a good livelihood (community active member).

Corporate practices of making profit, separating consumers from producers, concentrating and centralising control, and treating farmers unethically, are core themes within Mary's account of the conventional food production system. In this context, the goal of Source is to "take back power over our food system from big for-profit companies" (Mary/community active member). Mary implied that corporate interests within the modern, industrialised food system provide food to consumers without wanting them to think critically about where it comes from and how it is produced. For her and many other active members such a system treats food simply as commodity for production, circulation and consumption with emphasis only on capitalistic exchange.

Creating a concern over how and where food is produced is clearly important to active members of Source contesting corporate culture and contesting these elements within the university. A sign that this is confronting to conventional food service providers on campus and university operational managers are active member accounts that in the early days of Source the university prohibited it from selling meals/drinks and putting up signage. Kelly explained:

> "the university has pandered to them a lot [contracted food service provider], so we weren't allowed to sell hot lunches because they got upset. We weren't allowed to put a notice board advertising the hot lunches because it was a trip Hazard, but Lazenby's can have one" (active member/student).

Suggested by Kelly is that not only was Source viewed as potential threatening to conventional food service providers on campus, but bureaucratic process within the university made it difficult for Source to achieve the aim of becoming visible on campus.

Creating concern at Source is, however, more than just about creating symbols which make people think of alternatives. By connecting producer and consumer (often embodied as one), and by localising food production (within communities), the critical thinking promoted by Source is also rendered in practical terms. Karl (academic staff/active member) emphasised this point when he commented that Source is "activist in the way it lives its life, in the way it is in the world" but different from an activist organisation as it is "not demanding the university divest of fossil fuels" even though "probably our [Source's] members are - but that is up to them". Important here is the distinction between Source the organisational entity and its members and what they might or might not do with their learnings and experiences. As Mary (community

active member) outlined, Source is "a nurturing place, I guess, for new activists to gain confidence" and does not demand that its members think in a certain way. For active members critical thinking is part of nurturing activism by providing a place where people can engage in dialogue with others over their concerns, be supported in expressing and exploring these concerns, and enact alternative practices in response to these concerns. This type of critical thinking has helped individuals involved with Source to take a stand and work towards changing conventions around food production and consumption and within other capitalist systems.

Theme 2: Providing a refuge for concern

Kelly (student/active member) suggested that Source **"**exists as a haven, a place where activists or passionate people can just go and be themselves and recharge and feel safe", adding that "it's a place where if you don't fit in you can still be valued". In this context, she made reference to another Source member who she believes has some sort of medical condition. Kelly (student/active member) commented "I don't know if he's got asperger's ... he obviously does not fit into the rest of society". Kelly creates a perception of Source as a refuge for people who have been disenfranchised by and alienated from society and somewhere they can revitalise and feel supported. Her account again implies that Source is more than a place that nurtures concern in an abstract or purely environmental sense, but is a place where this is put into practice in various ways. Source as a refuge of concern is a significant feature in how its active members distinguish it from certain aspects of the university. For example, one active member believed that Source **"**keeps inspired people engaged with the university and not depressed" (Eric/student/active member). Eric's commentary and use of the term 'inspired' implies that passionate students and staff need somewhere, like Source, to 'process' and embody much of their learning and teaching about unsustainable

development in the classroom. Also, suggested in Eric's account is that this is good for their mental health and wellbeing as passion and the university are immiscible.

Kelly who at the time of being interviewed had just acquired an academic position within the university commented that Source provides a place to be a "real human being" (active member). She followed this claim with "like let me get out of this shit institution and let me just go and be a real person" (Kelly/student/active member). It is reasonable to assume that for Kelly the university holds people in an inauthentic state of being. But obviously, you have human beings within the university who would object that they are confined from being real. So, what is it that makes Source feel more authentic for Kelly? Kelly (student/active member) felt that Source is place where there is a real concern for the wellbeing of people involved, commenting, for example, that "Source is built on trust and integrity and ethics" whereas the university is a place where "no one gives a shit. No one helps, no one in the institution could give a fuck. It is such a heartless cold place". Kelly's emotions and passion for Source are clearly present in her account. In expressing her concern and generalisations about the university she seemed to demonstrate her point that freedom to express passion and emotions and are an important ingredient in being a real human being, hence the authenticity of her account. This is something which she finds absent in working at the university or at least not allowed to be made visible.

Kelly's previous reference to the university as a 'cold and heartless place' paints an image of something dead which does not have qualities important to human life. Conversely, another active member considered Source to have a "good heart" (Eric/student/active member). Jeremy (community active member) also made reference to this quality when he commented that Source is "trying to be more human" and "a more human scale organism" explaining that its members behave "much more

on the basis of relationships than rules". Active member accounts of the authenticity of Source seems to involve two important elements. The first element involves being an organisation of concern not in some abstract sense but in practice through the freedom to express passion and emotions. The second, being an organisation where the practice of sustainability is based on relationships of concern rather than rules mandating that you should be concerned or how you should behave. An example of this is how Source makes visible and shortens connections within the food production system by localising food production and being explicit about the social and environmental impacts involved in the sourcing of food. Source achieves such a task through the passion and emotional investment of volunteers. These volunteers do not have to be there and do not have to conform to rules on how to behave. Their freedom to express their concerns makes Source a refuge of concern and is for Kelly what makes it authentic.

A number of participant accounts suggested that university operational managers might be made to feel anxious by how Source's authenticity, as described by active members, has materialised on campus. Anxiety stems from that fact "some days it's a bit grotty, it's a bit messy" (Liz/professional staff/user). Such an anxiety was perceived by some participants to be part of the reasoning involved in locating Source on campus. Source is not that visible on campus "[i]t seems a little out of the way ... It's not like having a garden say in the central mall area" (Patrick/professional staff/user). Patrick suggested that the lack of visibility of Source has resulted in it not being embedded in the university campus experience. Similarly, another stated "[i]t's sort of on the fringe which sort of suits the uni" because "it is not conforming to the branding or the way the university is supposed to look tidy" (Kathy/academic staff).

A number of Source's active members/users/supporters drew the conclusion that Source's lack of visibility on campus is intentional and related to the concern of university managers over infrastructure on campus that has the potential of being unmanaged. For example, Kevin (CSD operational manager) commented that "we had some severe reservations about the Source building to start with in terms of rodent infestation that might have occurred through the program" and "all of the bits and bobs, the rubbish, the composting processes". This concern was also articulated by John another CSD operational manager. Underlying these concerns was scepticism about the ability of the type of people who get involved with Source to meet university operational expectations. This was made explicit by John (CSD operational manager): "We have seen these things many times before. Students get all enthused. They build a garden and then they go. And no one wants to take it on". However, university staff, as well as people who do not study or work at the university, are also involved personally with the project. That is, it provides somewhere on campus for staff and students disaffected by business-as-usual at the university to rejuvenate and contest corporate culture. Also, students can and do continue to volunteer in the project after they have finished their degrees as many active members have. The array of different types of people who invest personally and emotionally (as well as financially) in Source means that if a whole cohort of volunteers decide to leave or if students have exams, then gardens can become overgrown, the shop closes for the day and sales go down. But this change, rather than simply a reflection of an unmanaged project, reflects changes in the concerns of those involved. As these concerns change, so too will the project. While managing this uncertainty may make operational managers less anxious it would also influence what many active members/users/supporters of Source would relate to its authenticity.

Practice 3: Creating a place of experiential learning

Active members understood Source as an attempt to create a place of experiential learning. A major theme found to be relevant to this practice was 'creating a playground for learning'.

Theme 1: Creating a playground for learning

Mary (community active member) described Source as "a place where theory is put into practice in the real world"; a place where the classroom meets the Earth where learning and living is connected. The use of renewable materials such as straw bale and recycled wood to create the Source building, creating a composting system, running a cafe and retail wholefoods shop, and growing and sourcing food are examples of how different knowledges of sustainability are embodied in the practices of Source. Bruce, an academic who at the time of carrying out interviews was a member of the Vice Chancellor's Executive, noted that these practices "cut across many disciplines. Like agriculture, business, entrepreneurship". Hence, Source can be taken to be in step with the increasing emphasis given by UTAS towards interdisciplinary education and action learning as outlined in the *UTAS 2016-2020 Strategic Plan for Learning and Teaching* and the *UTAS Statement of Values* drafted in 2015 (UTAS, 2015g, 2016c).

While Bruce (academic staff/Vice Chancellor's Executive) acknowledged the role of different disciplinary knowledges in constituting Source, he also noted that "the volunteers that run it, could [make that] link much better". He noted the under-realised potential for Source to be a "living case for cross disciplinary learning" that better links in with the university curriculum. (Bruce/academic staff/Vice Chancellor's Executive). While Source can be said to ground different knowledges of sustainability that are taught within the UTAS curriculum, it is not to be confused with formal

approaches to education within universities. Reference to this misconception was made by one participant when he commented “it [Source] doesn’t provide what you would call academic rigor, there is no structure or assessment” (Joshua/CSD operational manager). However, the fact that learning at Source involves no formal structure or assessment does not mean that it has not taken place. Source provides informal and extra-curricular learning opportunities for anyone that wants to get involved, and is a “really nice playground for trying out sustainability ideas” (Kelly/student/active member). Source as a playground for people to discuss and test ideas, and to think about the world, exploring how it works and our relationships to it, speaks to its co-operative’s informal yet valuable pedagogically innovative function.

An academic who uses Source to ground sustainability ideas and theories taught within the UTAS curriculum explained that learning can be cultivated “Not by telling them [students] that this is how the world works but by letting them experience how the world works” (Laura/academic staff member/user). Central to the way Source teaches sustainability is “enabling ourselves to do it” by “living it” (Jeremy/community active member). Jeremy suggested that living what it is you might want to learn about sustainability helps develops a sense of responsibility and stewardship for the planet. Laura and Jeremy both draw attention to the role of personal experience in what is learned at Source. Here learning is cultivated through the sharing of personal experience in growing and sourcing food. In this way knowledge is constructed not as something which comes in finished form from the outside, but is continuously constituted through in-situ practice. As each person brings with them their own unique and lived experience of the world learners become active participants in their learning, a fundamental element of EfS (Tilbury, 1995).

Rendering knowledge dependent on the personal experience of trying out things firsthand can, however, bring much ambiguity in truth making. Financial management at Source provides an example. As one active member explained "So there's been heaps of discussion about what the purpose of Source is. About when we are going broke, what's our new angle, what are we going to do" (Kelly/student/active member). Kelly's use of the term 'when we are going broke' indicates that Source has experienced impecunity more than once and it is expected to occur again. Kelly was positive about this occurrence, in the sense that each time it happens it offers the opportunity to think differently about the purpose of Source. This approach to financial management, if adopted by the university or any other organisation concerned about profits and outcomes, would be challenging if not considered outright reckless by conventional economic managers. Making mistakes costs a lot of money when staff have to be paid and projects have to be delivered to justify further investment. In profit/outcome focused organisations if a person leaves, projects are usually carried through by the next incumbent. The case is different for Source which can afford to experiment and play around with its finances as making money is secondary to valuing the contribution of people involved. Most of these people volunteer their time and don't get paid but work at Source because they derive intrinsic value from bringing their passions to life. When volunteers change, or when volunteers decide to get involved differently, the terms of the experiment change. Source becomes self-reflective and gets viewed in a different light, and then Source is lived differently. Its informal approach to learning thus provides the space for learning through making mistakes and playing around with ideas.

Kelly (student/active member) noted "We might not be getting it right in some of the products we are buying, but I can say 'Hey I think that's wrong, can we raise that?'".

For her learning at Source means “you have to be invested and that investment is the reward” (Kelly/student/active member), hinting at what it means to be fully present, physically embodied, emotionally invested and actively engaged in one’s learning. There is no certainty that an abstract idea will remain intact; in practice things do not always work out as theory suggests. As each person has a different vantage point to which their experience has carried them, there is no veritable ground on which you can claim that your construction is more truthful or a framework you can appeal to in trying to settle the facts. Your construction of truth can always be reworked and viewed by others differently. While the relative and relational nature of this type of truth requires an on-going effort of practical reasoning that can be daunting, it ensures that truth is kept intact with its social and material contexts. Hence, it can be said that Source provides a place which educates people around healthy and more sustainable ways of being, not by closure of established truths but by playing with these truths through embodied practice with others.

Chapter 6: Constituting sustainability at the University of Tasmania

The ideal of sustainability as a global imperative is evidenced by numerous international conventions, agreements, protocols, and strategies (GDRC, 2014; UNESCO, 1990; 2015; UNGA, 1972). However, it is becoming increasingly less clear how the translation of this ideal into practice is making a positive difference to the health of the planet and to human well-being in the early 21st Century. As detailed in Chapter 1, much of the sustainability discourse over the last 50 years has emphasised the role of universities in addressing the root causes of unsustainability through EfS (Calder & Clugston, 2003; ULSF, 1990; 2017; UNESCO, 2002). Australian universities have embraced EfS primarily through the making of institutional commitments, greening of campus operations, and disciplinary research and teaching. While this is a start, EfS demands a greater focus on the roles (plural deliberate to reflect their heterogenous nature) of universities in creating both sustainable and unsustainable futures. Required is deeper and more courageous critical inquiry into the root causes of unsustainability and their relationship to the social orders which secure and shape the lives of many who participate in universities.

In Chapter 2, I argued how the ideal of sustainability is made and can be made differently. I concluded that an important part of the practice of sustainability is its reflexivity, or capacity to enable the underlying assumptions and diversity of meanings that constitute this ideal to be made visible and contestable. I offered a critique of the currently un-reflexive nature of the dominant economic and technological agenda for sustainability, that of 'sustainable development'. This profoundly modernist project of sustainability is constituted through a dualistic ontology which favours an

epistemology of objective knowledge and an axiology of human progress that together make sustained economic growth through technological means a powerful organising principle of societies around the world. This project masks the diverse ways in which sustainability can be understood and lived beneath universal certainties. Hence, the role of universities in contesting the modernist project of sustainability and the instrumental reasoning which it relies on presents the potential to politically innovate the discourse and practice of sustainability.

In Chapter 3, I asked the primary research question: In what diverse ways is the practice of sustainability brought into being at the university? Here I laid out the dialectical constructivist methodology and analytical framework used to answer this question. In Chapters 4 and 5, I explored how sustainability is brought into being within two cases of sustainability at the University of Tasmania's Sandy Bay Campus: The Bike Hub and the Source Community Wholefoods Project (Source). Thematic analyses of 20 interviews with participants ranging from students, academic staff, professional staff and external community members was carried out to understand how the practice of sustainability is constituted in each of these cases.

The Bike Hub and Source provide only a small sample of the ways sustainability is or can be constituted at the university. However, these richly textured cases provide insight, even within a single institution, into the deep differences that exist within the practice of sustainability, differences that reach down into the foundations of modern societies and into possibilities for their transformation. In this chapter, I draw the two case studies into dialogue and analyse the findings of my study in relation to the literature laid out in Chapters 1, 2, and 3. My aim is to answer the primary research question using a dialectical approach. I draw on Richard Bernstein's notion of 'understanding' as ongoing process and David Harvey's notion of 'dialectic' as a mode

of enquiry to understand the social processes which are internalised in the making of an 'entity' or 'thing' (Bernstein, 1983; Harvey, 1996a). My aim is not to lay claim to what sustainability is, but to understand how it is made as a stable 'entity' in different contexts.

Harvey (1996a) maintains that in the making of an entity—in this case, sustainability at the University of Tasmania—the social processes that are internalised within objects and projects bring with them much heterogeneity, thus providing sites of contradiction. Rather than view these sites of contradiction as unsurmountable tensions or unwelcome points of weakness, Harvey (1996a) encourages a dialectical mode of enquiry that sees theses contradictions as productive spaces or moments for creativity and transformation. I first outline how the two case studies provide contesting practices of human progress. I then present these cases as different social constructions of sustainability within the university. I hold these constructions under tension dialectically through the metaphors of sustainability as 'an object that speaks for itself' and 'a subject which is spoken for'. In using these metaphors my aim is to not only to answer the primary research question, but also to open spaces for creativity and transformation in the making of sustainability within the university.

How is sustainability contested?

The Bike Hub and Source reveal two very different ways sustainability can be constituted within the university. However, before discussing these differences it is important also to recognise their similarities. Both are projects on university land that aim to engage the university community and the broader community in positive responses to sustainability concerns. Globally established principles of EfS are evident in each of these cases: both emphasise the role of action and student-led learning,

experience, interdisciplinary knowledge and participation in bridging different theories of sustainability with its practice at the university. As such, both are manifestations of what McMillin and Dyball (2009) refer to as a whole-of-university approach to EfS. In their establishment, both of the projects examined here have drawn on and developed practical skills of university students, built partnerships between students and teachers, and built partnerships between academic and non-academic (professional) staff. Therefore, both are attempts to create a shared responsibility for sustainability at the University of Tasmania a key element in a whole-of-university approach to EfS. As mentioned in Chapter 4, sustainability as a whole-of-university approach is also enshrined in the *UTAS Open to Talent Strategic Plan 2012- Onwards, UTAS Strategic Research Plan* (2014-2018), *UTAS 2016-2020 Strategic Plan for Learning and Teaching,* and *UTAS Statement of Values* (UTAS, 2012f, 2014b, 2015g, 2016c). These institutional structures emphasise the University of Tasmania's role as an agent of change and transformation for sustainability and are in step with the notion of education as a core public good as outlined in the *Talloires Declaration* (1990) (ULSF, 1990). As such, both cases represent a connection between the university, the education it provides and the way these learnings are put into practice for the common good of society.

In what follows, I compare and contrast the findings of the thematic analysis of each case in terms of how sustainability can be made differently. While these cases share much in common they also are very different, suggestive of the varying dynamics, choices, challenges and ambiguities in efforts to realise sustainability within the university. The Bike Hub is represented by participants as an approach to sustainability drawing on technical, objective and expert knowledge. On the other hand, Source is represented by participants as an approach to sustainability drawing on radical

normative traditions focused on the politics of social change. These creative forces have played a strong role in contextualising the approaches to sustainability evident in each of the cases.

Contest over human progress

In Chapters 4 and 5, I outlined different practices involved in the Bike Hub and Source. The practices constituting the Bike Hub link symbolic infrastructure and technology on campus, with meanings around healthy living and real-life learning for sustainability, with competences involved in creating convenient choices, building legitimacy, and delivering operational outcomes. The practices constituting Source link organic and locally sourced food, vegetables and fruit gardens, and straw bale and recycled building materials, with meanings around contesting corporate culture and experiential learning, with competences involved in creating a countercultural organisation, nurturing activism, and creating a place of connection.

In chapter 2, I argued that the modernist project of sustainability can be understood as a quest for transcendence through human progress. As part of this quest, science and technology are called upon as value-neutral means to achieve notions of human progress aligned with global capital and sustained economic growth. This quest is often uncritically interpreted as key to the win/win aspiration of linking the goals of global development and conservation (Davison, 2001; Meadowcroft, 2000; Mitcham, 1995; Raco, 2005; Redclift, 2005; Saul, 2005). In what follows, I outline how the practices constituting each case can make the Bike Hub a modernist approach to human progress and Source a radical approach to human progress.

Modernist approach

Participants noted the Bike Hub makes cycling more visible on campus and as such presents a powerful symbol of the university's commitment to sustainability and healthy living. This was made clear by Carolyn (student/cyclist/Bike Hub user) when she noted that its purpose was to encourage "students and staff to have a healthier and more sustainable life-style". A key feature of the Bike Hub's symbology is the integration of technological elements. The technological elements of the Bike Hub (which include solar panels, manufactured materials, and electric bike charging stations) are foregrounded both in its design and in the media which it has attracted (UTAS, 2012c, 2012d, 2013b, 2015d, 2016b). Participant accounts suggest that the foregrounding of these elements has helped both to make cycling more "attractive" (Patrick/professional staff/cyclist/Bike Hub user) and to cast an image of the university as innovative in its approach to sustainable transport: "the best thing we ever did was to have the red lion logo on it, because we could modernise the university" (Liz/professional staff).

The Bike Hub represents the efforts of operational staff aiming to make the practice of cycling a more convenient and attractive transport choice as made clear by Jennifer when she noted that it is designed "to get students and staff to use sustainable ways of transport. Bikes in this case. Trying to incentivise by providing facilities that will make it easier for them" (CSD operational support). As such, the Bike Hub contributes to the total sum of individual consumer choices around transport at the university. This indeed was the intention of operational managers, as Joshua (CSD operational manager) made clear by commenting that we are "encouraging people to do other things, but not saying we are banning them [cars]". A focus on convenient choices is cited by operational staff as a necessary aspect in making the Bike Hub appeal to a

wide audience and to legitimise the support of university senior managers. Chris, a professional staff member within UTAS' Senior Management Team, clearly highlighted the success of this appeal when he commented that "I think whether you are an Asian student, a European student, an Australian student etc it's a really easy project to engage with".

Legitimising the Bike Hub has involved developing a "business case" outlining the strategic value of the project to the university (John/CSD operational manager). Justifying demand based on evidence and positioning the Bike Hub as non-competing with other priorities for university spending are all important elements of this process. Joshua made this clear when he explained that it had to be "operationally palatable. Budgetarily palatable. It had to be politically palatable. Therefore, it had to clearly respond to a high-level strategy or policy for the university" (CSD operational manager). Another important element is the integration of academic and operational goals presented by operational and academic staff as a win-win outcome for the university, or in Joshua's words the "value of wholistic thinking around sustainability" (CSD operational manger). Here, 'real-life learning' is valued for the utility of outcomes generated in respect to both academic and operational goals and as Sara outlined this "made it legitimate" (CSD operational support).

The university is increasingly managed as a business like any other, whose goal is to grow in economic terms. The Bike Hub is one of many examples of operational managers seeking to brand the university as sustainable, while at the same time trying to make sustainability part of business-as-usual through the greening of campus operations. Breen (2010) maintains that operational managers tend to define greening of campus operations as a matter of science, infrastructure and technology. UTAS's operational managers have addressed issues such as climate change and its related

issue of non-renewable resource consumption by making cycling a more convenient choice through technology and infrastructure. The Bike Hub is an attempt by operational managers to secure sustainability as a predictable outcome of aligning consumer choice, technology, infrastructure, and action learning toward the goal of permanently reducing non-renewable resource consumption while maintaining economic growth. Assumed here are the benefits of free markets and competition, hierarchy and top down technocratic approaches to achieving sustainability. In this context, partnerships between academics, students and operational managers serve to make the university competitive in a global market where distinction and reputation are all important factors.

Radical approach

Technological innovation did not feature strongly within active member accounts of Source, which suggests that active members viewed technology as unimportant to the purpose of Source. However, Source is every bit as technological and reliant on technical knowledge as is the Bike Hub. The symbology of straw bales and espaliered fruit trees is every bit as strong as the symbology of crisp steel posts and electric bike charging stations. However, the discourses and practices of technology in these two cases are profoundly different. The Bike Hub project proudly claims the language of technology and links it to themes of innovation, efficiency, convenience and choice. In contrast, the Source project shies away from this language, burying technological artefacts and choices in talk of livelihoods, concern, connection and cooperation.

A possible explanation of the different role and manifestations of technology in these two cases is that active members see Source's innovation as located elsewhere. To this end one active member of Source noted that, rather than provide more infrastructure support, the university could better support "Source's mission" by divesting from the

use of “fossil fuels” (Jeremy/community active member). Source’s innovation does not lie in infrastructure and technology but in how its active members attempt to politically reposition human progress by focusing on ethical food consumption and production. Active members believed that supporting local and organic food consumption practices was a form of political action that could “take back power over our food system from big for-profit companies” (Mary/community active member). One active member expressed Source’s innovation in terms of providing “an alternative view of the system” (Karl/academic staff/active member). This ‘system’ was viewed by active members of Source in terms of a corporate culture primarily concerned with making profit at the expense of people and the environment, now and into the future.

Active members expressed political innovation in terms of creating solidarity not in some abstract sense, but through relations of concern that connect producers and consumers. Participants also reported that solidarity is created amongst Source members through consensus decision-making, a time-consuming but intrinsically rewarding craft. Decisions are not made through a hierarchy but can be made informally so long as people take responsibility for change, as expressed by Karl when he commented: “If we don’t have a product and there is something you don’t like or the way it is done you can do something about it” (active member). The sharing of responsibility was important for active members because “you all [sic] have got to feel like that is our decision” (Mary/community active member). Thus, for active members, solidarity is created by creating ownership in decisions made. An important part of this type of decision making is to provide the space “for people to get angry and people to say I am not being part of this decision” (Kelly/student/active member). Being allowed to disagree and express passions and emotions freely was seen by active members as

another important element in creating affective forms of solidarity outside of dominant capitalist relationships of economic ownership. Ownership for active members was not about appropriating or controlling something but the feeling of being intrinsically connected to a larger and unfolding collective.

Active members represented Source in many ways as a rebellion against technocracy and social hierarchy implicit within mainstream capitalist systems, a strong feature of voluntarily simplicity (Farber, 2013). Cherrier (2009) notes that voluntary simplicity is usually mischaracterised as anti-consumption and misses how consumption is considered sacred by simplifiers. By this Cherrier (2009) means that the focus of simplifiers is an emancipation from the profanity of consumer culture by voluntarily letting go of possessions. While this can be taken simply to mean letting go of materials things, it can also mean letting go over possession of ones-self, that is 'self' as an entity with a definable and/or quantifiable value that can be exchanged for capital. A strong feature of Source is the focus given by active members to the non-capitalist exchange of volunteering one's times and energy and sharing skills without extrinsic reward. This is a strong feature of how active members conducted consensus decision-making and what they believe is fundamental to creating ownership and solidarity in a cooperative project. These features are in direct contrast to the way many participants noted how decisions were made within the Bike Hub. While students were also involved in creating the Bike Hub, both academic staff and professional staff noted that action learning was oriented towards outcomes in terms of infrastructure, and academic credit. For example, Joshua (CSD operational manager) noted that from the point of view of operational managers and their involvement in the Bike Hub as an action learning project, it "ha[d] to be a project which delivers operationally". In addition, staff involved were receiving monetary reward through paid positions. In

contrast, at Source, as one active member noted, it is not the outcomes that are rewarding: "you have to be invested and that investment is the reward" (Kelly/student/active member). This highlights the intrinsic value that members place on volunteering their time, energy and skills to participate actively in creating Source.

Cherrier (2009) also notes how sacred consumption involves giving meaning to material objects in a way that connects it to livelihoods. This is a key feature in the meanings active members attributed to Source. The design and community elements of Source align with the meanings given to it by one participant as an "ongoing project" which is "alive" (Laura/academic staff/user of Source). Another active member described Source as a "place for people to connect" and a "place of connection to the outside world" (Amy/community active member). A number of active members also noted how Source is connected to their personal life, such that it was a piece of their "home" and that they hold "dream[s]" for it (Jeremy/community active member). For example, Kelly an active member noted that there was "a real blurring of lines" between her public and private life when it came to Source. In Chapter 5, I referred to this as the 'homeyness' of Source, based on Power and Dowling (2016) use of this term. The way I used this term was to imply a place for connection not simply or only with nature but with one's self and, in the process, for defining and redefining individual and collective identities. For many of its active members, conventional, modern distinctions between private worlds and public worlds, natures and cultures are subverted and redrawn in the on-going practices of creating Source. This is what potentially makes it messy for operational managers to deal with, but equally what makes it feel homely for active members.

Source addresses politically radical agendas not within the remit of Bike Hub, such as participatory democracy, economic localisation, non-capitalist exchange and sacred

consumption. As such it draws much of its knowledge base from radical social movements and the radical sub-disciplines of the university in contesting business-as-usual at the university and more generally the spread of corporatism in everyday public and private life. Active members of Source place value on freely expressing concern for the environment and people over the value of making a profit. For a number of active members this is what makes Source feel authentic and a place to be a "real human being" (Kelly/student/active member). The way Source contests corporate culture, connects consumption to livelihoods and provides a refuge for emotions and passions in public life makes it an expression of a radical political approach to human progress.

How is sustainability constructed?

I now turn my attention to how each of the cases represent different social constructions of sustainability. As mentioned in Chapter 2, I use the term ontological commitment to refer to the relationship between assumptions about the world and ways of being-in-the-world. I also in Chapter 2 defined axiology separate from epistemology. In this last Chapter I bring these terms together to argue more forcibly the point that politics underrides how sustainability is constituted. Hence, in this chapter I define epistemology as a commitment to a relationship that supports particular ways of knowing and valuing the world (Audi, 1999; Denzin & Lincoln, 2005; Mason, 2002; Redclift, 2005). Plumwood (1993) asserts that a common ontological pattern throughout western history is to act and to understand the world as if it was unavoidably riven between the reality of masters and the reality of slaves. She calls this a dualistic relation where the master is foregrounded as a legitimate maker of truth with the slave backgrounded, rendered illegitimate in this act of creation. Plumwood's insights into dualistic relations are useful in interrogating the ontological

and epistemological commitments of Source and the Bike Hub. I maintain that while both cases share an ontological commitment, they value differently what is foregrounded and what is backgrounded by the other.

Each case places different emphasis on the role of structure and agency in constituting sustainability. The Bike Hub relies on backgrounding agency as key in making decisions about sustainability. This is made explicit in the way operational managers have attempted to make personal values invisible in the Bike Hub. John expressed this when he distinguished between having "[a] real urge", or in other words personal desire, to be involved in creating the Bike Hub, and having a "day time job as well" (CSD operational manger). Here John was intimating how personal values in the workplace can inhibit someone doing their job properly. The practices involved in creating the Bike Hub are heavily shaped by conformity to institutional structures. These structures seek to limit the role of personal values in making decisions, where projects must demonstrate strategic value and be related to university policy. Hence the professional practice of sustainability is rendered devoid of personal values and made to appear value-neutral. Furthermore, operational mangers believed that removing structural barriers to cycling would make it a more convenient choice. Hence the role of agency is also downplayed by operational managers in favour of emphasising the role of structural barriers to the practice of sustainability.

In contrast, the active members involved in creating Source focus on agency. Active members rely on agency to by-pass practices which bring institutional structures wedded to capitalism into the mix of decision making. Agency here is rendered as concern about the effects of corporate power within the food production and consumption system. By providing a nurturing place for activism, creating a place of connection, and a place where people can express themselves without adherence to

dominant social norms, active members of Source believed that corporate power could be by-passed and alternative economic possibilities created. Hence, the role of structure is downplayed in favour of agency in the practice of sustainability. In the case of Source, the practice of sustainability involves blending what is personal with what is made public. For active members, making personal values visible in this way is an important aspect of contesting corporate culture.

Both cases are seen here to be based on a dualistic ontology of structure and agency, where the role of agency is foregrounded in creating Source and backgrounded in creating the Bike Hub. Bernstein (1983) argues that dualistic ontologies shape what is legitimate in terms of modern knowledge production. In what follows, drawing on the work of Latour (2009) and Bernstein (1983), I focus on the epistemology of each case through two distinctive metaphors which again relate to what is foregrounded and what is backgrounded in the practice of sustainability. In the spirit of dialectical enquiry proposed by Harvey (1996a), I use these metaphors to bring the Bike Hub and Source into productive tension.

Metaphor: 'an object that speaks for itself'.

As mentioned in Chapter 2, within the modernist project of sustainability, technology is often considered value-neutral, and simply the instrumental application of scientific knowledge (Davison, 2004, 2008a; Feenberg, 2010a; Ihde, 1998). This kind of knowledge relies on settling the truth of nature through objectivity (Bernstein, 1983). The apparent objectivity of the Bike Hub is a key aspect in its appeal to a broad cross-section of the university community. A key feature in constituting the Bike Hub as a stable object of sustainability is limiting interpretations of what its symbology implies: fixed infrastructure, the communication of the Bike Hub's purpose through UTAS

media, and a design that foregrounds bike parking all contribute to limiting interpretation. The Bike Hub is further stabilised by showing that its form and function are not a matter of personal values, but rather something mandated by university priorities, and produced through experts and students using objective and technical knowledge of what is needed in terms of campus cycling infrastructure (UTAS, 2012b; 2012e, 2013c). Technologies such as solar panels and electric bike charging stations represent material and stable products of this process. In so doing, the Bike Hub can be objectively located as consistent with university structures that require both certainty in making decisions and certainty in what is produced.

Bernstein (1983) maintains that objectivism represents the belief that true knowledge can only be attained by removing the influence of subjectivity and relativism. Latour (2009) and other authors refer to objectivism in terms of a disembodied truth, to emphasise how the contextual complexity of the social and material world is alienated in creating stable objects of truth (Potter, 2008; Weston, 2005). In the case of the Bike Hub, disembodied expert and technical knowledge has been used to define fossil fuel-based transport as a problem for sustainable transport. In turn, solar panels and electric bike recharging stations are assumed as value-neutral solutions. In this way, the Bike Hub is made to appear as a stable object, with a fixed meaning, in terms of embodying the solution of sustainable transport. The finished nature of this truth is manifest in terms of the lack of community needed to keep it running. This aspect of the Bike Hub constructs sustainability as an ‘an object which speaks for itself’ ready for use and ready for market (Latour, 2009).

Metaphor: ‘a subject which is spoken for’

Source is constructed by active members as an object that is both stable and changing. Stability is created through networks of support involved in its creation. Initially conceived by students from the university, Source’s membership includes university staff and the broader community. A key feature in Source’s network of support is the volunteer work, mainly conducted by students, needed to keep the project going. These volunteers share a common concern over the politics of the conventional food production system. This commonality between active members allows them to maintain a certain identity separate from elements of the university that they believe do not support their mission.

Change is also a feature of Source’s networks of support. Source provides a place where people can express their concerns with the full force of their emotions, where rules and structures are not made explicit, and where the distinction between private and public life, nature and culture is blurred. By foregrounding the role of emotions, agency and private life, it would be easy to jump to the conclusion that Source cultivates what Bernstein (1983) calls subjectivism in how truth is arrived at. Plumwood (1993) argues that this often involves simply a reversal of dualistic relations where subjectivism is given privilege over objectivism. Bernstein (1983) maintains a typology where subjectivism is not the dualistic other of objectivism. For him, subjectivism is based on a firm foundation or framework for truth making. Bernstein (1983) claims that relativism is the dualistic other of objectivism where truth is mediated through the social and material contexts of knowledge production. This type of truth is embodied beyond the individual, resulting in plural non-foundational truths (Bernstein, 1983; Latour, 2009). By creating a refuge of concern that connects people with nature, private life with public life through the practice of sourcing and growing

food, Source more precisely cultivates a unique, relativistic rendering of truth. By unique I mean that while Source cultivates plural truths, these truths are only partially non-foundational and still draw on objectivist sources of knowledge, whether it is how to grow vegetables, how to compost, how to run a shop and food-cooperative, how to build using straw bale, and how to inspire social movements for change. This blending of many different worlds whilst maintaining a degree of stability through foundational sources of knowledge has shaped what it has become and what it continues to become in the face of potentially hostile capitalist surroundings. This blending in the context of other members doing the same is what makes Source an ongoing and living project. It is in these terms that Source constructs sustainability as 'a subject which is spoken for' (Latour, 2009).

Productive tension

In this section, I use the metaphors of 'an object that speaks for itself' and 'a subject which is spoken for' to open-up possibilities in the making of sustainability at the university. However, before proceeding I first provide accounts of how both cases do not speak at all. This is important because it shows that no matter how an entity is made to speak, what is heard is always context dependent (Latour, 2009). Several participants indicated that the Bike Hub does not speak in any straightforward way. This sentiment was centred on perceptions that the attempt of operational managers to make sustainability a convenient choice was "superficial" and underappreciates the socio-material complexity of why people take up certain practices (Sara/CSD operational support). In addition, the convenience of any given choice is dependent on the embodied experience of other choices we have and the power and freedom to realise these different choices. Reducing this complexity to a matter of providing convenient choices through infrastructure invariably will not speak to everyone.

Source also does not speak to everyone, as one member of Senior Executive made clear; noting that in contrast to the Bike Hub's infrastructure and technological elements, which he perceived had a sense of sophistication, **"**Source looks a lot more, I use the word basic, a lot more home-grown" (Chris/professional staff). Other participants expressed similar perceptions, commenting of Source that "some days it's a bit grotty, it's a bit messy" (Liz/professional staff/user). The perception that Source looks basic and the Bike Hub looks sophisticated hints at how sustainability as 'a subject that is spoken for' and 'an object which speaks for itself' appeals to different people in different ways.

Plumwood (1993) argues that dualistic relations are problematic not simply because they are binary distinctions but because they are relations of unequal power. As a relation of unequal power, the qualities of the dominating side are foregrounded as heterogeneous and the subordinated side backgrounded as homogenous. As Harvey (1996a, pp. 56-57) argues, however, understanding the social processes which influence "plays of power attaching to the exploration of this or that potentiality … can generate a new vision of possibilities".

The visibility of the Bike Hub and Source on campus is inherently connected to relations of power in constituting sustainability as 'an object that speaks for itself' and 'a subject that is spoken for' at the university (Latour, 2009). Source is relatively invisible on campus as it is located in a hard-to-get-to location out of plain sight of the university community and the wider community. This is largely because Source is a dynamic and ongoing project at the margins of the university organisation where things can get messy as a result of both institutional neglect and positive intent. For many of its active members, redrawing boundaries around private worlds and public worlds, natures and cultures in contesting corporate culture is what distinguishes it from

business-as-usual at the university. The form of Source is ongoingly, mediated by the agency of those involved. In contrast, the Bike Hub's location is extremely visible to the university community and the external community. This is largely because the Bike Hub is a much more static and settled project in its materiality and its process of development, which has included students working towards the primary goal of building cycling infrastructure. The Bike Hub's form has been mediated by the political reality of the university's strategies, priorities and hierarchical decision-making processes where outcomes are an important concern. Unlike Source, the Bike Hub does not provide a home where things can get messy but is simply a finished piece of infrastructure for cycling. The certainty in what is made visible through the Bike Hub and the uncertainty of what is made visible through Source are therefore important to understanding the politics of constituting sustainability as 'an object that speaks for itself' and 'a subject that is spoken for' at the university (Latour, 2009).

The Bike Hub is visible on campus because it conforms to social orders that heavily influence the university, while Source is relatively invisible because it contests these orders. These social orders are governed by free markets where things are produced for individual consumption based on personal choice and demand. Here it is assumed that if sustainability is something people care about, they will create demand for it by making choices themselves. The market will then respond by increasing supply of these goods. In direct contrast, Source aims to give meaning to consumption beyond a fetish and compulsion for more of the same. Rather than rejecting consumption, Source seeks to make consumption sacred by connecting food consumption with how it is produced, how it effects the environment and how it effects people's lives. The Bike Hub makes sustainability visible 'as an object that speak for itself' by highlighting it as a simple and easy act of making an individual choice based on a certain truth to

unsustainability problems. In effect, it offers a universal solution. In contrast, Source makes sustainability visible as ‘a subject that is spoken for’ by highlighting it as a complicated practice related to livelihoods based on ongoing plural truths to unsustainability problems. In effect, it offers particular solutions that demand personal investment. The latter can be confronting to people who would like to see themselves as sustainable without changing the way they live, and the former piecemeal and ineffective to people who see themselves as sustainable because they are trying to change the way that they and others are living.

The metaphors of ‘an object which speaks for itself’ and ‘a subject that is spoken for’ can be used to represent two different ways of constituting sustainability at the university. These metaphors can make sense in terms of specific social and material contexts but contradictory when taken as a whole in the making of sustainability. Harvey defines contradiction as the union of internally related processes which simultaneously support and undermine each other (Harvey, 1996a). A major site of contradiction in relation to the Bike Hub is that while operational mangers have attempted to make personal values invisible in infrastructure for sustainability, they also assume that personal values play a role in decisions to be sustainable. Here sustainability is constituted through objectivity devoid of passion and emotions and without student/academics/operational staff given free rein in determining outcomes. This is useful to building legitimacy with university senior managers and in producing outcomes efficiently that can be used and marketed to a wide audience. However, it also means that questioning politics and creating concern is not part of this constitution. A major site of contradiction in relation to Source is that while active members have attempted to make agency visible in contesting corporate culture, they struggle against organisations they believe support this culture by maintaining a

separate identity. Here sustainability is constituted through a relativistic process of giving free rein in determining outcomes and working out what is true through passionate and emotional practice. However useful this may be in creating a refuge for concern over politics, this constitution of sustainability may not be stable enough to have wide reaching potential for political transformation. So far as this constitution coalesces into an absolute claim against the background of a homogenised 'subject' e.g. the university, corporates, and profit makers etc it is as dualistic as what is revolted against. Missed will be the potential to work with and appreciate the heterogeneous nature of all institutions including the university in realising connections and creating concern beyond those that think the same.

If sustainability is only considered 'an object that speaks for itself', general truths and structures are foregrounded, while the potential to create care for the world through passions and personal investment is backgrounded. If sustainability is only considered as 'a subject that is spoken for', plural truths and agency are foregrounded while the potential to create new forms of stability through political action is undermined (Latour, 2009). The potential for transformation in relation to the constituting of sustainability at the university depends, as Bernstein notes, on developing understanding. Understanding requires application not in some linear sense of the practice of theory, but through dialectical processes in which general truths and their practice in concrete instances are ongoingly transformed through lived experience (Bernstein, 1983; Harvey, 1996a). A large part of this depends on the willingness to fuse one's horizon of understanding with another's (Bernstein, 1983). As Bernstein notes, fusing horizons is not about attempting to bring binaries together which have been created to be separate for specific reasons and purposes. Fusing horizons is about recognising that different horizons are limited by their socio-material contexts but then

also that these horizons can be enriched through encounters and dialogue with others about *their* horizons; in effect creating understanding of why things matter and why things don't for different actors. I maintain that fusing together sustainability as 'an object which speaks for itself' and as 'a subject which is spoken for' can open-up possible worlds in the making of sustainability at the university. Important to this fusing is the understanding that sustainability is always in the process of becoming through the diversity of ways in which it is actualised in different social and material contexts by different actors.

Conclusion – a call for cultural and political transformation in and through universities

I must reiterate that my intention throughout this research project was not to stake a claim on what sustainability is. My focus has been firmly on the specific ways sustainability is brought into being in the context of modern forms of social organisation and power. Both cases make sense in terms of their material and social contexts. My intention has been to develop an understanding of the different ways sustainability can be constituted, and to draw from these varying constitutions valuable lessons for the university and modern society more generally. I have sought to highlight the contest over modernist sources of social power in the constitution of sustainability, argue that the heterogeneous nature of universities is valuable to the project of sustainability and outline the creative potential of considering sustainability as ongoing process. That is, universities are sites where all the competing forces of modernity play out, providing a potent nexus in which different construction of sustainability are closely juxtaposed creating opportunities for dialectical tension and transformation.

Sustainability as a contest over modernist sources of social power

The two cases and their practices represent different ways of constituting sustainability within the university. The Bike Hub and Source draw attention to how universities are microcosms of modernist sources of social power and plural sites of resistance in the contest over human progress. While the former privilege individual personal choice and technical expertise, the latter seek to create new forms of solidarity and social learning. The Bike Hub represents a hegemonic construction which preferences the stability of finished objects of sustainability whose truth is overt, measurable and replicable. Source represents a marginalised construction which preferences the messiness and contingent nature of involving passion and emotions in the creation of unfinished objects of sustainability whose truth is ongoing and plural. The hegemonic construction of finished objects of sustainability relies on a dualistic ontology, objectivist epistemology and a consumerist axiology. The marginalised construction of unfinished objects of sustainability relies on a dualistic ontology, relativistic epistemology and an axiology of sacred consumption. While it can be said that both cases employ relations of social power in the project of creating sustainability at the university, they speak, however, to different purposes. The first serves the purpose of building legitimacy within the university by constituting sustainability as an individual consumer choice and a marketable product. The second serves the purpose of cultivating concern over corporate power by constituting sustainability as a contingent good that is made through lived relationships.

Within the university sustainability can be brought into being as something that is simple to engage with at an individual level of personal choice, with least disruption to the existing political order. This is emblematic of the dominant approach to the practice of sustainability within the Australian university sector and other modern

institutions. This approach has been shaped by the attempt to wrest sustainability from social movements and to re-invent it as a prudent logic of institutional branding, efficiency and distinction. In most cases this means focusing on addressing barriers to behaviour by making the practice of sustainability convenient through infrastructure and technology provision, and structuring social norms through symbolic commitments. These commitments structure sustainability as an individual rational choice that anyone can take up. While this provides the means to build reputation and engage a diversity of people it does not, however, challenge ideologies or paradigms around economic growth. Within the university, sustainability can also be constituted as something that is lived at a cooperative level, that directly contests political orders wedded to capitalism and continued economic growth. This may be confronting as it puts into question the relationship between these political orders and the relatively secure, stable and affluent lives of many who participate in the university. Contestation of these orders directly puts into question the stability of what we consume and produce in public life, as well private life. However, I maintain that contestation can be enriching to the stability of what we produce and consume. That is, contestation does not have to imply a rebelling against stability, but rather how production and consumption of stable objects can be organised in such ways as to enable, and inspire, political action for a more morally sustaining and justice world. A world that we all have a share in creating, and therefore a responsibility to take care of.

The value of university heterogeneity to the project of sustainability

The university is a key site for the struggle between techno-economic progress and moral-political progress in the history of modernity. The principles of EfS outline the need for universities to play a larger role in the latter. However, while romanticising the notion that they are places where people can think critically and transform the

world, this study shows that the EfS actions and achievements of Australian universities are, to date, highly ambivalent and limited. This study shows that the project of sustainability within a university, rather than situating the university as an agent of moral and political change within society, can enable forms of change that reproduce modernist sources of social power. Practices which nurture activism, allow the freedom to express concerns through passion and emotions, and contest corporate power, are in direct opposition to the identity politics of the 'corporate university' (Nagy & Robb, 2008). While it may not be convenient to producing outcomes that are ready for use or market, such practices promise political and cultural transformation not just of society, but of all who constitute the university. Anything short of this practice is to use sustainability simply as a rhetorical tool that maintains business-as-usual, serving only to improve institutional reputation and mask the sources of unsustainable development. In this context, the Bike Hub is one among countless examples of the 'corporate university' seeking to demonstrate that sustainability goals can be met without political change or disruption, while Source is part of a long lineage of university-based activism led by students and academics (often from radical sub-disciplines) that seeks radical political transformation.

EfS emphasises the need for education that is politically and culturally transformative. It emphasises transformation of social and political processes by acknowledging the strength of an interdisciplinary setting in understanding complexity and critically reflecting on different knowledges and their assumptions (Holdsworth et al., 2008; Tilbury, 1995; Tilbury & Wortman, 2004). I would also add implicit within EfS is the need to discover how the world is constituted through our own self definitions and assumptions (Harvey, 1996a). In terms of the challenges of sustainability, focusing on how sustainability is constituted allows learners to examine how unsustainability is

produced and reproduced by certain modes of thinking and practice that they and others embody.

I maintain that operational managers within Australian universities could learn much from approaches that bring politics into the task of creating objects of sustainability. While operational managers using science, infrastructure and technology have a role to play in making the university more sustainable, this agenda with the aid of academics and students could also be used as a site for action learning that questions the structural relationships of power that have created much of the world's environmental and social problems (Breen, 2010; König et al., 2016; McMillin & Dyball, 2009). By doing so, objects of sustainability can be rendered worth caring for and used to build communities of concern. I also maintain that those students and staff who demand the university change their practices, should also examine their own interests and concerns in relation to how they depend on objects that are stable enough for people to be drawn to them. This would seem a sensible meeting point for different constitutions of sustainability, and one that recognises the valuable heterogeneous nature of universities in constituting sustainability. It would also serve to open-up this creative act to all actors variously positioned within the university.

Sustainability as ongoing process

The need to integrate the academic and organisational goals of the university in the making of sustainability is often cited within calls for a whole-of-university approach to EfS (McMillin & Dyball, 2009). However, if guided purely by outcomes, this integration serves to centralise control over the units of knowledge production and in turn standardise what might be considered productive knowledge. Here conceptualisations that frame learning as intrinsically valuable are given over to more

instrumental conceptions that frame learning in terms of its utility. The result, is the biasing of methods that can quantify learning, or re-contextualise what is learnt into stable products ready for use or commodification.

I maintain that an embodied approach should serve as an additional condition to a whole-of-university approach to EfS. This involves focusing on learning as an ongoing, creative, generative and potentially transformative process capable of cultivating various ways of being. This kind of learning would emphasise embodied experience as the medium through which knowledge is constructed (Weston, 2005). An embodied approach would aim to explore how object and subject, theory and practice, structure and agency, the objective and relative, the rational and emotional, and the personal and public, are co-constituted. This would also re-position education as a site in which constructions of truth and identity can be continually tested, reformed and transformed. To open-up this potential, learners would need to be given the space to critically reflect on, and explore, their embodiment and those of others in building transformative networks of collaboration. The result is that all claims to knowledge would be considered alongside their social and material contexts and never be seen as final. With such an approach, learners would define their own outcomes more actively by being involved in their learning in a fundamental sense. That is, they would contribute to making what is implicit and often backgrounded, explicit in the foreground of what is learned in constituting sustainability. Hence, I conclude that universities can aid their own and societal transformation for sustainability, by enabling administrators, students, professions and wider society to become critical of their embodiment in bringing into being sustainability as an ongoing process, one which is enriched by as many actors as possible.

Reflections on research process

As mentioned in Chapter 3, one of the criteria for case selection stemmed from my interest in why certain instances of sustainability are more visible on campus than others. While differences in visibility can be expressed in terms of location, the visibility of cases is also related to my standpoint. I have been involved in constituting sustainability at the University of Tasmania since 2010, working initially as a sustainability manager and then, whilst carrying out this research, as a casual sustainability officer within its Commercial Services and Development Section. Certain cases of sustainability may be more visible to me because of my own tension in what I make visible, in my public and private life. Hence, in carrying out this research, I have also come to understand, somewhat painfully, how this site of tension has affected my role at the university. As a professional staff member of the University of Tasmania, I can now see more clearly that in my attempts to green campus operations I have not been critical enough of my own embodiment, in I what I have created, and continue to create, in the name of sustainability. I have also come to understand that in my private life I can afford to experiment with different sustainability ideas in way not afforded in my professional role at the university. However, I also now recognise that legitimacy within the university is not a given, but a social construction maintained and potentially transformed by specific actors, among whom I am one of many.

Notwithstanding time limitations and pragmatic constraints, as with any process of learning and developing understanding, there are things that upon reflection could have been done differently. The tensions that I have had in working at the university at the same time as being a researcher of the university and how I have handled them provides one such example. In the beginning of the research process my supervisors

questioned how I would handle my own professional biases in carrying out research. As someone who at the time was opening up a Pandora's box of different theoretical possibilities (and who in all honesty while mesmerised was utterly confused with what he was finding), I decided to handle this by ceasing all work with the university throughout the empirical research period and by maintaining a field diary of reflections on both my role as staff member and my role as researcher at the university. My aim here was to keep in view my professional bias as enriching to my research. However, as a novice in the many things that I set out to understand and to do, I believe that I too quickly settled on simply managing my professional bias. I could have integrated it as part of a more uniquely positioned research project. To this end, I could have, in addition to interviewing participants of the two cases studied, interrogated myself through autoethnographic methods. I would have then been able enrich my interpretations of participant interview data more explicitly with my positionality. This would have added another element of dialectics to the research, that is the dialectical relationship between the researcher and researched. By including the researcher voice as an active participant in developing understanding the result would have been an even more textured account of how sustainability is brought into being at the university.

Another limitation of the study, beyond that arising from how a researcher might maintain and/or interrogate their standpoint, was the diversity of different actors involved. While all attempts to include as many voices as possible were made, there was a range of actors that were not represented in the study. These include the many different actors across the diversity of administrative, academic and community outreach functions of the university. In hindsight, I could have crafted different invitations to participate in the research using terms and language specific to these

different actors. This is not to say that I believe that the aims of my research have not been achieved. The limitations that I have identified represent ways in which future research could be conducted so as to enable an even more critical analysis of the manifold and contestable processes by which sustainability is brought into being at the university. Sustainability can be constituted, after all, as an ongoing process, and one that can always be enriched by the many ways it is contested, constructed and embodied.

Appendices

Appendix A: Interview schedule

A critical analysis of the constitution of sustainability within the University of Tasmania

Indicative questions for semi-structured interviews with participants involved in Bike Hub Project/ Source Community Wholefoods Project

The following are examples of questions that will be asked in the interview. These questions aim to understand how different discourses and practices of sustainability are legitimised, resisted and maintained. Questions will be adapted based on the role of participant in the organization and their role in each of the cases. The analytical logic of questioning is as follows: context (role in organization and project, personal background), meanings (contestation, confusion), assumptions (abstractionism, relational, truth), identity (self, other, personal, professional), and participation (agency, structure).

NOTE:

- Bike Hub Project/ Source Community Wholefoods Project are referred to below as the Project.
- University of Tasmania (UTAS).

Example questions

1. What is your role within the organization?
2. How long have you been in this role?
3. What is your understanding of the purpose or aim of the Project?
4. Can you tell me a little about your specific involvement in the Project? When did you get involved and how?
5. Why did you get involved in the Project?

6. Does the Project relate to the way you live your life more generally?

7. Can you compare this Project with other programs/ project's aiming to enhance university life? In what ways is the project similar/different to these?

8. Have you come across people who understand the Project differently to you? In what ways was their understanding different? What would you say is the reason for this difference? Did this difference affect you and/or your involvement in the project? How? Why?

9. Is technological innovation and expert knowledge important to the Project and its future? Why (not)?

10. Can you suggest ways the Project could be improved?

11. Have you been involved in making collective decisions that affect the Project? Can you provide an example, noting how you and others were involved and how the decision was negotiated?

12. Can you suggest any improvements to how collective decisions that affect the Project are made?

13. How would you characterize the relationship between UTAS more generally and the project? Has 'the university' been supportive'? Why (not)? How? Is there anything different that you would like to see UTAS do in the future to support the project?

14. Have you come across any UTAS processes or procedures that you think support/hinder the Project? Can you describe them? Can you suggest any improvements to these processes and procedures?

15. Are you aware that UTAS has have governance principles, policies and strategies supporting sustainability? Do you think these have influenced the development of the Project? How? Why?

Appendix B: Letter of support, UTAS Sustainability Manager

Corey Peterson
University of Tasmania
Commercial Services and Development
Private Bag 94
Hobart TAS 7001

Kamal Singh
University of Tasmania
School of Geography and Environmental Studies
Private Bag 78
Hobart, Tasmania 7001 Australia

06 September 2013

Dear Mr Singh,

I have great pleasure in providing support for your research project *A Critical Analysis of the Constitution of Sustainability within the University of Tasmania*. The Sustainability Team for which I am responsible is part of UTAS Commercial Services and Development. The Sustainability Team are very enthusiastic about innovative approaches to sustainability and I agree with you that the Source Community Wholefood Project and the Bike Hub Project, both located on the Sandy Bay campus, are such cases.

The Academic Operations Sustainability Integration Program (AOSIP) is one of the many initiatives developed and supported by the Sustainability Team. It provides opportunities for students to get hands-on experience through involvement in projects that have a real impact on the sustainable operations of the University. The case studies you propose would be useful as documentation of the efforts to date as well as providing information on what worked, what didn't, suggestions for improvements to projects and the AOSIP itself.

Your research is exactly the type of project supported through the AOSIP. Therefore, I have no hesitation in providing support for your research and will assist in your recruitment of potential participants for interviews by circulating invitations through my database of key personnel and other contacts.

Best of luck with your project.

Sincerely,

Corey Peterson
Sustainability Manager

Simple Actions Towards
SUSTAINABILITY

Appendix C: Letter of support, Source Community Wholefoods Board

University of Tasmania

School of Geography and Environmental Studies

Private Bag 78

Hobart, Tasmania 7001 Australia

DATE: 30/10/2014

Dear Mr Singh

I have great pleasure in providing support for your research project: A Critical Analysis of the Constitution of Sustainability within the University of Tasmania. We do aim for Source Community Wholefoods to be an example of sustainability in practice.

Source Community Wholefoods is a not-for-profit venture which was initiated in 2005 by a group of students & community members interested in creating a more sustainable future. The centre encompasses a food co-operative and community garden that is open to UTAS and general community, and provides a place to explore social and environmental issues. In effect, we hope for Source to act as a living example of urban sustainability that encourages community involvement and creativity.

The Source Board supports the aims of your research and can assist in your recruitment of potential participants for interviews by circulating the invitation to participate through our membership database.

Yours Faithfully

Jenny Calder

Chair of the Source Community Wholefoods Board

Appendix D: Generic email for recruitment

General recruitment email from researcher to potential participant

SUBJECT: Two case studies of sustainable practice within the University of Tasmania

Dear [INSERT NAME: Potential Participant]

My Name is Kamal Singh, and I am currently enrolled in a PhD in Geography and Environmental Studies in the School of Land and Food, University of Tasmania. The Australian Tertiary Education Sector has responded to calls to contribute to sustainability by sustainability initiatives across everything from infrastructure to curriculum to organisational culture. My research aims to critically investigate how sustainability is constituted at the University of Tasmania. I will be guided in this research by my supervisors, Dr Aidan Davison and Dr Stewart Williams.

I plan to undertake a case study on the Source Community Wholefood Project, Sandy Bay and Bike Hub Project, Sandy Bay. I believe these projects are examples of two different yet novel approaches to sustainability within the Australian Tertiary Education Sector. Combined they present an opportunity to explore the diverse forms of sustainability practice at UTAS.

As key stakeholders of the university I invite you to participate in this research. As a participant you will be interviewed at a time and place that is convenient for you. These open-ended interviews are approximately 30-60 minutes long and will focus on your understanding and experience of sustainability in relation to [Bike Hub Project and/or the Source Community Wholefoods Project].

I plan on undertaking interviews throughout Semester 1 and Semester 2, 2014. Attached is an Information Sheet which details further the nature of my research and what it involves for participants. Attached also is the Consent Form. If you would like to participate in this research please complete the attached consent form and email to Kamal.Singh@utas.edu.au

by 30/04/2014, along with details with your preferences for a suitable time, date and location for an interview.

Kind Regards

Kamal Singh

PhD Candidate

Ph: 03 62

University of Tasmania

School of Land and Food.

Private Bag 78

Hobart, Tasmania 7001 Australia

Appendix E: General participant information sheet

Two case studies of sustainable practice within the University of Tasmania

Information Sheet for interview participants

Invitation

The Australian Tertiary Education Sector has responded to calls to contribute to sustainability by enacting sustainability initiatives across everything from infrastructure to curriculum to organisational culture. Many universities within Australia are now diverting significant resources in the form of staff, program and project funds to improve their sustainability performance and are developing supporting policies, strategies and plans.

This study looks at how sustainability is constituted at the University of Tasmania (UTAS). Specifically this research will critically investigate how sustainability at the University of Tasmania has been established within two specific cases: (Bike Hub Project, Sandy Bay) and (Source Community Wholefoods Project, Sandy Bay).

The study is led by Dr. Aidan Davison (Senior Lecturer, School of Land and Food). He will be assisted by Dr Stewart Williams (Lecturer, School of Land and Food), and Kamal Singh (PhD candidate, School of Land and Food). The study forms part of Kamal Singh's PhD requirements.

The project seeks to explore the role of different social, economic and environmental contexts in the development of sustainability practices within UTAS.

What is the purpose of this study?

This inquiry considers how sustainability has emerged as a discourse and practice within the socio-political context of UTAS. The inquiry seeks to investigate both practical activities and the assumptions underlying the meanings given to sustainability.

Case studies will be undertaken on the material reality and the lived experience of participants involved in two different ways of constituting sustainability. One of these cases will be technical, formalised and expert driven (Bike Hub Project, Sandy Bay) and the other more activist, informal and participant led (Source Community Wholefoods Project, Sandy Bay).

Why have I been invited to participate?

You have been invited to participate because you have an interest or are involved in the Bike Hub Project, Sandy Bay and/or the Source Community Wholefoods Project, Sandy Bay). Your input is valuable to understanding how stakeholders construct and enact meaning of sustainability at UTAS.

Your involvement here is voluntary. There are no consequences if you decide not to participate and this decision will not affect your relationship with any members of the project team or their organisations.

What will I be asked to do?

As a participant you will be interviewed at a time and place that is convenient for you. These open-ended interviews are approximately 30- 60 minutes long and will focus on your understanding and experience of sustainability in relation to the Bike Hub Project, Sandy Bay and/or the Source Community Wholefoods Project.

With your permission, interviews will be audio-recorded so that they can be transcribed and analysed later. You will be offered an opportunity to review transcripts of your interview and suggest revisions. If you prefer not to be recorded, the researcher will take notes during the interview.

Are there any possible benefits from participation in this study?

What are the possible benefits of this research to:

(i) The participant?

Increase awareness of and opportunities to participate in sustainability practices at UTAS.

(ii) The wider community?

Provides UTAS and the Higher Education Sector with a richer understanding and appreciation of how sustainability is and can be constituted in light of different social, economic and environmental contexts.

Are there any possible risks from participation in this study?

There are no foreseeable risks from participating in this research. The researcher will follow strict procedures to protecting confidentiality and anonymity of participants. This is very important to the study for the following two reasons:

- Participants contribute without risk of negative consequences resulting from their involvement in the study; and
- Participants contribute with honesty and integrity.

What if I change my mind during or after the study?

You are free to withdraw at any time, and can do so without providing an explanation. If you choose to withdraw, any data you have provided will be removed from the study.

What will happen to the information when this study is over?

The data will be held on a secure database at the University of Tasmania, and only accessed by the researchers. It will then be destroyed after 5 years have elapsed (by erasing any electronic data and shredding any hard copy materials).

How will the results of the study be published?

The study findings will published as part of Kamal Singh's PhD thesis and any relevant academic publications produced through the study.

You will be assigned a pseudonym and will not be identified in publications without your permission. You have the right to review materials for publication prior to publication.

What if I have questions about this study?

Questions about this study can be asked on the day or by contacting any of the following researchers:

Mr Kamal Singh (PhD candidate)

Ph: 03 62

Email: Kamal.Singh@utas.edu.au

Dr Aidan Davison (Chief Investigator)

Ph: 03 6226 7590

Email: Aidan.Davison@utas.edu.au

Dr Stewart Williams (Co Investigator)

Ph: 03 6226 1866

Email: Stewart.Williams@utas.edu.au

This study has been approved by the Tasmanian Social Sciences Human Research Ethics Committee. If you have concerns or complaints about the conduct of this study, please contact the Executive Officer of the HREC (Tasmania) Network on (03) 6226 7479 or email human.ethics@utas.edu.au. The Executive Officer is the person nominated to receive complaints from research participants. Please quote ethics reference number: H0013699.

This information sheet is for you to keep, and is the basis for seeking your consent to be involved. You will be asked to sign a written consent form. Your participation is appreciated.

Appendix F: Participant consent form

A critical analysis of the constitution of sustainability within the University of Tasmania

Consent form for interview participants

1. I agree to take part in the research study named above.
2. I have read and understood the Information Sheet for this study.
3. The nature and possible effects of the study have been explained to me.
4. I understand that my participation in the study involves a conversational interview exploring my ideas, perceptions and experiences about sustainability in relation to the UTAS Bike Hub Project, Sandy Bay and/or the Source Community Wholefoods Project. These conversations will last approximately 30 – 60 minutes and with my permission, will be audio-recorded.
5. I understand that participation involves no foreseeable risk(s) out of the ordinary.
6. I understand that all research data will be securely stored on the University of Tasmania premises for at least five years from the publication of the study results, and will then be destroyed.
7. Any questions that I have asked have been answered to my satisfaction.
8. I understand that the researcher(s) will maintain confidentiality and that any information I supply to the researcher(s) will be used only for the purposes of the research.
9. I understand that I will be provided with an opportunity to review transcripts of my interview and to suggest revisions.

10. I understand that the results of the study will be published so that I cannot be identified as a participant.
11. I understand I have the right to review materials for publication prior to publication.
12. I understand that my participation is voluntary and that I may withdraw any data I have provided without any effect up until the point of publication of the thesis.

Participant's name: _____

Participant's signature: _____

Date: _____

Statement by Investigator

☐ I have explained the project and the implications of participation in it to this volunteer and I believe that the consent is informed and that he/she understands the implications of participation.

If the Investigator has not had an opportunity to talk to participants prior to them participating, the following must be ticked.

☐ The participant has received the Information Sheet where my details have been provided so participants have had the opportunity to contact me prior to consenting to participate in this project.

Investigator's name: _____

Investigator's signature: _____

Date: _____

Appendix G: Practices constituting the Bike Hub

The practice of creating a symbol of healthy living

MEANINGS (sample of meanings given to this practice in participant accounts)	MATERIALS (elements of materiality that relate to meanings)	COMPENTENCES (skills, know how involved in realising or addressing meanings)
• Infrastructure which gets people to think about cycling • A facility which speaks for itself • A facility which includes innovative technologies to get people to pay attention • A facility which is marketable and creates an image of the university as innovate in sustainable transport	**General elements** People; bikes; students and staff; wider community; university campus; infrastructure for cycling; roads; Hobart hills; lifestyle; cars; fossil fuels **Marketing elements** Image; media; university logo; highly visible location on campus;	**Symbolising commitments through infrastructure and technology** • Locating the Bike Hub to maximise marketing potential • Branding the Bike Hub as a university project (use of logo) • Marketing the Bike Hub as an innovative approach to sustainable transport • Linking the symbology of the Bike Hub with caring for the environment and a healthy life style • Promoting alternatives to fossil fuel based transport • Making the Bike Hub look attractive and stand out

• A static infrastructure project that does not depend on a community to remain functional • An aesthetically pleasing facility • A facility which is welcoming to a large diversity of cultures • Infrastructure which normalises cycling by making cycling more visible • Infrastructure which makes ridding to campus easy • A facility which provides another transport mode option • Infrastructure which promotes cycling for its health and environmental benefits	technology and infrastructure; ACTS Awards **Infrastructure elements** Technology (e-bikes charging stations, solar panels, manufactured materials); static infrastructure; bike lockers and bike parking; undercover facility; secure facility; bike hooks	• Making the function of infrastructure easy to understand through design • Implementing processes that ensure that the facility is used in certain way **Overcoming barriers through infrastructure** • Designing a facility that is safe and easy to use and secure to leave bikes • Understanding the barriers to ridding around Hobart and designing a facility that addresses these barriers • Understanding the needs of cyclists • Sighting the Bike Hub in close proximity to major cycling routes to Campus • Providing for different transport options to campus • Making cyclists more visible

The practice of creating legitimacy within the university

MEANINGS (sample of meanings given to this practice in participant accounts)	MATERIALS (elements of materiality that relate to meanings)	COMPENTENCES (skills, know how involved in realising or addressing meanings)
• Infrastructure which provides choices in terms of transport modes • An infrastructure project that posed an internal risk to the university in terms of being seen to be a waste of money • A project that has taken away funding from the provision of more distributed end of trip facilities for cyclists • A static infrastructure project that does not depend on a community to remain functional	**Political structures** Parking fees; car parking permits; UTAS Parking Strategy; UTAS Sustainable Transport Strategy; budgets and resources; internal and external stakeholders; university policies outlining operational and academic priorities; university funding and resources; jobs; reports; staff; Senior Management Team; University Council; university	**Providing choice** • Promoting choice in transport modes • Providing choice without it being an attack on someone's paradigm • Promoting cycling as a personal choice **Developing a business case for the Bike Hub** • Communicating the strategic value of the Bike Hub to the university community • Linking UTAS Parking Strategy, UTAS Sustainable Transport Strategy and other university priorities with the need for the Bike Hub

• A project which required obtaining buy in from the university • A project which was largely driven by one person • A project where getting support from the university means getting involved with the university's bureaucratic structures • A project that has been supported through UTAS policies and strategies • A project which was sized to justify further demand for similar facilities • A project that was justified and sited based off research by students from UTAS	committees; academic divisions; administrative divisions	• Keeping project within budget • Gaining support for the Bike Hub through UTAS's decision making structures and people with power within the university • Building the evidence base for demand of the Bike Hub • Creating the Bike Hub without it looking like a personal agenda

The practice of creating real-life learning for sustainability

MEANINGS (sample of meanings given to this practice in participant accounts)	MATERIALS (elements of materiality that relate to meanings)	COMPENTENCES (skills, know how involved in realising or addressing meanings)
• A real-life learning environment for sustainability • An environment which provides students with exposure to the complexity and messiness of a real-life project • A demonstration of wholistic thinking for sustainability • A project which connects academic practice with how a university campus operates • A project to reduce operational cost in the design and build of bike storage facility on campus	**Integrated elements** Academic staff; students; operational staff; campus environment; infrastructure & technology **Formalised structures** UTAS project manager; learning assessments; mission statement for project; memorandum of understanding between operational and academics units; paid academic	**Project Development** • Developing an action learning project for students that also realises value operationally for the university • Involving student, academic staff in the creation of their campus • Providing student with an experience of working with different perspectives and imperatives • Providing opportunities for students to make sense and problem solve from a messy experience • Exposing students to the complexities of a real-life sustainability project

• A project that was delayed because of students being involved • A project which structures and formalises the way students are involved • A showcase project for Australian universities because of its formal process and documentation to include students in the ground work to get it up and running • A project where a lot of the skills sets to create the project where either outsourced or provided by people getting paid or student getting educational outcomes • A project where technical knowledge has been very important	and operational staff; course credit; learning outcomes; operational outcomes	• Using skill sets within the university community to deliver an operational project • Motivating student participation by linking project to academic credit and formal learning outcomes **Delivering operationally** • Managing stakeholder involvement and assigning tasks and responsibilities • Providing timelines so as to involve students at the same time as moving the project through. • Preparing project scope • Developing a memorandum of understanding between academics and operational staff • Sourcing technical and expert knowledge inside and outside of the university community

Appendix H: Practices constituting Source

The practice of creating a community co-operative

MEANINGS (sample of meanings given to this practice in participant accounts)	MATERIALS (elements of materiality that relate to meanings)	COMPENTENCES (skills, know how involved in realising or addressing meanings)
• A food growing co-operative themed around local resilience and sustainable living • A project that was created by students • A collective project between UTAS students and the wider community • A project which encourages people to eat local and organic food and buy fair-trade products	**Networks of support** Broader community; students; academics and professional staff; university; environmental community groups; environmental student group; state and local government **Form of project**	**Creating the project** • Creating a community project around environmental sustainability and local resilience • Attracting student, university and community support • Developing a community project on university campus land • Dealing with perceptions about the project as only for people of left-wing politics • Creating a project where skills and knowledge are shared between members in its design, build and running

• A place where customers trust that food products sold • A project were people involved are from the radical left of politics • A project which has made vacant disused land on campus productive • A project which does not fit into the university 'box' • A project where getting support from the university means getting involved with the university's bureaucratic structures • A project that is much more than a demonstration because It involves peoples livelihoods. • A living project	Active members; life members; separate entity; university land; non-profit co-operative; legal constitution; management board; chair person; secretory; treasurer; volunteers; employees; café; shop; straw bale building; shoppers; stock; local farms; community garden; organic food; local food; fair-trade products **Elements of connections** Natural environment; people; campus; food growing garden; chickens; home; food; soil; life;	**Running a food co-operative** • Attracting new members and volunteers • Growing and sourcing organic food • Selling local organic food • Stocking a shop • Hiring staff and assigning responsibilities • Keeping the project going by being able to change and adapt business practices as new information arises • Being brave enough to try things that may fail **Involving people** • Letting the project grow through involvement into whatever it becomes • Letting people take responsibility and express their concerns • Involving everyone's views through consensus decision-making

• A project in which its community is integral to it continuance • A project where consensus decision-making has been important to building ownership and solidarity within the source community • A project where you can get involved as member and make decisions about how things are run and done • An oasis on campus • Source as a solid piece of home • A place where work and play blur • A project which provides a sense of connection with people and nature	biosphere; composting system; friends; family; Volunteer; community; outdoor seating	• Educating members to know that they can make the project how they want it to be • Developing trust and trusting people • Including emotions in decision making • Letting people disagree **Making connections** • Creating an open and friendly environment • Providing a place where people can connect and be free to express their passion and emotions • Connecting people with the biosphere and nature through growing food, composting and ethical food sourcing • Blending personal and public life • Prioritising community • Providing a home for people who care for sustainability

The practice of creating a countercultural organisation

MEANINGS (sample of meanings given to this practice in participant accounts)	MATERIALS (elements of materiality that relate to meanings)	COMPENTENCES (skills, know how involved in realising or addressing meanings)
• A project which encourages people to think differently • An icon which provides an alternative view of the system • An organic food co-op project which contests power in the Australian food market • A place where people can counter corporatism • An organisation that is not run like a corporation • A project that is run in way that is very different to the university • A project that is volatile because it is run by volunteers	**Elements contested** Capitalist system; Australia's food market; profit; supermarkets; corporates **Alternative images** Building; food; products; waste; work place; messy things **Elements of concern** Place; meeting place; activists; humans; nature; planet; food;	**Creating a countercultural organisation** • Creating an environment where people are encouraged to think differently • Challenging established orders through symbols which counter mainstream food consumption • Contesting power through practice • Running a business that is not about making profit • Buying from small distributor who source directly from farmers • Maintaining a non-hierarchical structure • Building a business model based off volunteers

• A business which gives more attention to expressing values over making money • A democratic organisation with no hierarchy and where all members can make decisions • A project that has ethics, values it employees and is not based on corporate money making • A place where rules and social norms are not so explicit • A project where a core group of people have invested personally • A place that provides a refuge for a marginalised element of society • A project which does not itself have an activist voice but is activist in the way it is in the world	producers; community; society; people; volunteers; ethical food; members; local farmers; local and organic food; fair-trade products; small distributors	• Creating a decision-making structure were all members are empowered to have a say • Accepting that you don't really know and you can't control what your business is doing • Aligning a business goals with peoples values • Having faith in a commitment to cause • Providing a place where people can get personal and are treated equally and valued for their contribution **Nurturing activism** • Letting members be responsible for their own activist activities • Making a place inviting for people with passions around sustainable lifestyles and health • Providing a place people can recharge and feel safe • Taping into passion and enthusiasm to make change

• Provides a place on campus for activists or passionate people about healthy and sustainable lifestyles to be themselves, recharge and feel safe • A project where most of the people involved in keeping it running are not paid • A human scale organism • A project where you can get involved and take ownership and be a real human being • A project with a good heart		• Providing a place where people can express their concerns through their passion and emotions • Supporting people through collectivising individual life • Helping people turn their dreams into reality • Basing the project on a human scale organism • Creating a place that feels real and authentic

The practice of creating a place of experiential learning

MEANINGS (sample of meanings given to this practice in participant accounts)	MATERIALS (elements of materiality that relate to meanings)	COMPENTENCES (skills, know how involved in realising or addressing meanings)
• A project which educates people around a healthy and more sustainable way of being • A project which provides a place for the theory of sustainability to be put into practice • Projects which connects academic practice with how a university campus operates	**Educational materials** Garden; local producers; campus; real world; home; life; place; natural environment; living plants; produce; playground; people; home; retail shop; building materials; compost system **Elements of involvement**	**Creating a place of action learning** • Focusing on experiential learning • Using everyday practices of growing food, and sourcing food to educate people • Creating a links between food and where it comes from • Providing learning experiences which offer different ways of being • Putting theory into practice • Allowing people to personally invest into their learning

• A project which ground-truths sustainability theory across many different disciplines • A project based on experiential learning • A playground for trying out sustainability ideas • A space for people to discuss ideas, challenge each other and think about new ways of doing things • A project which entices people to experiment with growing food themselves • A project which is about enabling people involved	Livelihoods; being; people; academic staff; operational staff; students; practice; different disciplines	• Allowing people to use their learning to have a say on how their university is run and could be run • Valuing learning for how it can change the world that you are part of • Linking academia with activism • Bring together and ground truthing many different disciplines to create a learning experience • Translate learnings into practice at home • Negotiating the complexities of a real-life project • Creating an experience of place consistent with use **Creating a living experiment** • Learning from mistakes • Taking risks • Turning ideas into reality and learning from that reality

• A project which helps build practical knowledge through involvement		• Discussing ideas with people and being open to being challenged to learn new ways of doing things • Helping people feel comfortable to share ideas • Providing a place for people to discuss ideas • Building skills and providing material so people can experiment at home • Making experimenting fun and playful • Enabling people through their involvement as a living experiment

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